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ADDRESSES.

THE PRESENT ATTITUDE OF PHYSICIANS AND MODERN MEDICINE TOWARD HOMEOPATHY.

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The important relation of the physician to the community makes it seem proper to discuss before this audience, in which there are many non-medical persons, a question which is very imperfectly understood by those outside of medical circles. The public at large does not understand the position assumed toward homeopathy and homeopathic doctors, by those physicians who decline to accept all sectarian designations. Surprise is not infrequently expressed at the unwillingness of a non-sectarian physician to meet a homeopathic neighbor in medical consultation, though the social relations of the two may be most cordial.

This paper is an endeavor to show the causes of this apparent anomaly. Its most important aim is to hasten the time when all honorable persons engaged in preventing, alleviating and curing disease will refuse to be designated by adjectives implying, or seeming to imply, that they do not adopt every means or method of action that scientific investigation proves to be valuable.

He who treats disease by electricity, only, is properly called an electropath; he who uses water alone in all affections, a hydropath. The doctor who adheres to the homeopathic law of Hahnemann in all cases, is in a similar way properly termed a homeopath; and he who treated all of his patients by the law of allopathy, if there ever has been such a law formulated, would be an allopath. No allopathists exist; though some doctors have been so called, but not originally by themselves.

It must be clear to the least intelligent, moreover, that he who does not adhere to the special methods of treatment giving him his name, at once loses his logical connection with the designation. In other words, a practitioner who uses water or electricity, and also medicinal remedies according to the homeopathic law is no longer a hydropath or electropath. It is his exclusiveness of treatment in the one instance which gives him his title. His rejection of exclusiveness and his adoption of other means of treating disease rob him of his right to the sectarian name. It is apparent, therefore, that he who uses, or is willing to use, all remedies and all methods, and who varies the size of his dose, the character of the remedy and its method of application with the exigencies of the disease is neither electropath, hydropath or homeopath, but something broader. It may be said, in passing, that by reason of his broadness he is perhaps better prepared to cope with disease.

Such practitioners as conscientiously choose their remedies and doses in accordance with the results of study and of experience with diseased processes, might with propriety be termed selective or elective physicians. The term would be applicable whether their actions were determined by their personal study and experience alone, or by the study and experience of others added to theirs. No such descriptive adjective is required, however, and the term "physician" suffices as does that of "dentist" in the sister profession; for common sense demands that he who would undertake any physical or intellectual work, should avail himself of every honorable means of accomplishment.

As all know, a medical sect called "eclectics" exists. The derivation of the name would seem to indicate that they select from all forms of remedies. They had originally certain ideas, I believe, as to the noxious qualities of remedies derived from the mineral kingdom, and advocated the use of vegetable remedies only. At any rate, the college established in Ohio in 1832 was the result of a resolution adopted, in order "that the people of the West may avail themselves of the advantages resulting from a scientific knowledge of botanic medication."[1] At present, the eclectics have, I believe, no special objection to mineral remedies. Dr. John M. Scudder, Professor of Practice of Medicine in the Eclectic Medical Institute, Cincinnati, says, "the eclectic gives remedies because their effect is *opposite* to or opposed to the diseased action. They may be selected according to the law of similia, or by empiricism, or by their known influence upon function and structure, physiologically or pathologically. They hold that remedies contain a *force* which set free in the body, influences its functions (mode of motion), doing that which is necessary to bring it back to that normal condition we call health."[2]

It is possible that the term eclectic was originally taken as a sectarian designation to create in the public mind the impression that eclectic physicians did differently, and did better, than those simply called doctors or physicians. Other medical sects have apparently done this for the purpose of attracting public notice. In many instances their chosen title has now no logical or etymologic connection with their belief or practice.

In this address I do not intend to discuss eclectic medicine at length; nor the beliefs and doctrines of vitopathists, physio-medicals, Thompsonians, and other sects. So far as I know, homeopathy is the only "school" or "sect" of medical practice under whose banner are enrolled any considerable number of physicians of intelligence and education.

[1] What is Eclecticism? A. J. Collins, p. 10.
[2] The Essential Differences between the Three Schools of Medicine, pp. 8-9.

It may be serviceable to ask the questions, What is medicine? What is homeopathy? Webster's unabridged dictionary defines medicine, homeopathy and allopathy as follows:

Medicine: "That branch of science which relates to the prevention, cure or alleviation of the diseases of the human body."

Homeopathy: "The art of curing, founded on resemblances; the theory and its practice that disease is cured by remedies which produce on a healthy person effects similar to the symptoms of the complaint under which the patient suffers, the remedies being usually administered in minute doses."

Allopathy: "The employment of medicines in order to produce effects different from those resulting from disease: a term invented by Hahnemann to designate the ordinary practice as opposed to homeopathy."

The Century dictionary gives similar definitions. Thus:

Medicine: "The art of preventing, curing or alleviating diseases and remedying as far as possible the results of violence and accident."

Homeopathy: "The medical treatment of diseased conditions of the body by the administration of drugs which are capable of exciting in healthy persons symptoms similar to those of the morbid condition treated."

A note is then added which says:

"In practice, homeopathy is associated with the system of administering drugs in very small, often infinitesimal, doses."

Allopathy: "In medicine, a therapeutic method characterized by the use of agents producing effects different from the symptoms of the disease treated."

A note goes on to say:

"The name is incorrectly applied, in distinction from homeopathy, to the traditional school of medicine, which opposes the homeopathic theory."

Eclectic medicine is defined by the Century dictionary as:

"A medical theory and practice based upon selection of what is esteemed best in all systems; specifically, the medical system of a separately organized school of physicians in the United States, who make much of what they regard as specific remedies, largely or chiefly botanical."

By these lengthy quotations it will be seen that there is a radical difference between homeopathy and medicine, in that the former is more limited in its meaning. Homeopathy is a method of treating disease and not the name of a branch of human science. It appears in these standard dictionaries in much the same manner as does evaporation or distillation in relation to chemistry. They are not sciences, but methods or processes of the science of chemistry, which may or may not be used by the professed chemist.

It may be asserted that this deduction from dictionaries is unjust toward the adherents of homeopathy. I can only reply that I have no knowledge of any medical dictionary written by a homeopathic physician, and that the non-professional authorities quoted, are standard works of reference, whose attitude toward medical topics is unknown to me.

Medicine then comprises the art of preventing and treating disease; and is founded on biology, anatomy, physiology, chemistry and physics. All physical and physiologic laws are correlated with it, and to all such laws must it be subordinate. Its facts are only established by careful and painstaking observation and research. Medical hypotheses and theories must be subjected to the same rigid scrutiny and heartless criticism as the hypotheses, theories and suggestions of the physicist. The rules of evidence must be as stringently applied in determining the truth of alleged medical facts as they are in the courts to ascertain the guilt or innocence of the accused.

It is evident, then, that medicine is a science and art, and is not electropathy, homeopathy or allopathy. It is equally clear that physicians who claim to study and practice the science and art of medicine are not allopaths, homeopaths or electropaths. Unfortunately, the general public does not realize this; and the majority of medical men are called allopaths, simply because they are not homeopaths. The error has been perpetuated by homeopathic literature giving the name allopath to those physicians who are unwilling to be homeopaths and who refuse to be affiliated with any sect of medicine. Homeopaths often speak in a similar way of homeopathy as the new school of medicine and describe non-sectarian physicians as of the old school. The difficulty of making the public understand the distinction between physicians and homeopaths has unfortunately led many physicians to carelessly and tacitly accept the designations "allopath" and "old school." Such terms, however, are not true. Physicians do not subscribe to a law of contraries or dissimilars (allopathy) as the homeopaths do to a law of similars.

The science of medicine can not be a sect or school any more than the science and art of navigation or agriculture. Physicians (often incorrectly called "old school doctors") are willing to use, and are never prevented by any code of ethics or society regulation from using, any remedy or dose which seems to them individually to be worthy of confidence. Ipecacuanha is given in minute doses for vomiting by many physicians, belladonna is uesd by them in scarlet fever, and aconite in many instances of fever, while phosphorus, bryonia, arnica, nitro-glycerin, etc., are remedies often used.

These and all remedies are used by non-sectarian physicians because physiologic and chemic study or experience has shown them to be indicated. The homeopathic physician uses them because he believes they produce, in the well, symptoms similar to those with which his patient is afflicted. For example, the homeopathic doctor gives a dilution of ipecacuanha containing an exceedingly minute amount of the drug to relieve vomiting; because ipecacuanha in doses of several grains causes vomiting in the healthy. The method of employing ipecacuanha by the non-sectarian rests on an entirely different basis. He gives small doses of the drug—not exceedingly minute amounts—when his patient has nausea due to a catarrhal condition of the stomach and bowels; because science has taught him that small doses of ipecacuanha stimulate and render less viscid the secretion of the mucous membrane of the stomach, increase the secretion of bile by the liver and promote digestion. His use of ipecacuanha has no relation or connection with the fact that larger doses cause vomiting. In some instances the drug employed is called by a name different from that adopted by the homeopaths, because physicians use the name adopted by the United States Pharmacopœia, the official guide in such matters published every ten years by a convention composed of delegates from the United States army, navy and marine-hospital service, the medical colleges and societies of the Union.

Again, physicians who are not homeopaths prescribe medicine in the form of powders, and at times put a few drops of a strong tincture, or a small pellet or tablet, into a tumbler partly filled with water, and

direct a teaspoonful to be taken at definite intervals. These methods which seem to the public to be inseparably connected with homeopathy, are also used, therefore, by non-sectarian doctors.

Medicine requires its votaries to examine into the hypotheses and theory of drug action and the causation of disease, and to accept as true only those statements which can stand the test of accurate scientific investigation. Many are the theories and beliefs that have been over-turned by the searching criticism thus given.

Medicine is ever ready to receive with open arms that which promises increased power against disease; but before it is accepted as truth it must show that it can stand the rigid test of modern science. The assertion of no man, or body of men, however eminent or revered, is accepted as final. Truth can not be predicated upon the statement of a few. The fact is only provisionally accepted until the accumulated proof of many diverse investigators and observers makes its truthfulness almost a certainty.

The public doubtless remembers the rejection of the Brown-Séquard elixir of life and the tuberculosis cure of the renowned Koch. The eminence of these men gave unusual importance to their assertions, but did not stay the critical study which showed the error of their beliefs. On the other hand, the germ theory of disease propounded by Koch has constantly been adding to the number of its converts, until now it is accepted by the major part of the medical world.

This review shows that non-sectarian medicine does not prohibit a physician holding views different from those of his fellows on questions of drugs and treatment. Its only demand is that its followers be catholic; that is, broad and open to conviction in all directions; that they approach all subjects in a truly scientific and humanitarian spirit. For this very reason, however, it does, from its essential nature as a science, prohibit that sort of exclusiveness which says that only one law or dogma can be true and correct.

He who says that "so and so" is the only universal law, at once reveals an unscientific spirit and mind, and precludes the personal investigation and observation which is necessary to make him a rational follower of scientific medicine. I may perhaps make myself clearer by an illustration. A civil engineer who believes and acts on the belief that the only and universal method of bridging a river is by the erection of wooden truss bridges is not a rational and scientific civil engineer. He is a "wooden-truss bridge builder," if you choose, but he is not and can not be, a scientific civil engineer, because the experience and observation of the great mass of competent observers show that streams may be bridged by truss bridges of iron, suspension bridges of wire and bridges with stone arches.

It was this exclusiveness in the methods of treatment proposed by Hahnemann, and adopted by his immediate followers, under the name homeopathy, that separated the homeopathists from the ranks of those who believed, and who still believe, in the use of any and all methods *proved* to be curative. Non-sectarian physicians hold to no exclusive dogma or doctrine in therapeutics, and believe that Hahnemann was in error in his opinions that "like cures like" and that drugs are increased in power by trituration and shaking. They believe that the doses advocated by him were so infinitesimally small that they are inert. Dr. H. B. Hemenway says [3] that he has several times examined low dilutions, not high dilutions, of mercurius vivus prepared by one of the most reliable homeopathic drug firms in the country, without finding the slightest trace of mercury.

In other words, they believe that experience and scientific investigation have shown and do show, that the cures attributed to these exceedingly small doses are instances of erroneous observation, that the cures occurred in fact without any curative effect being exerted by the drugs. They believe that it is contrary to the lessons of the science of medicine and of collateral sciences that 150 cases of true scarlet fever could be treated without a death by medicines of the two hundredth and higher homeopathic potencies exclusively.[4] They doubt the accuracy of the observations of Dr. William Ray of England who in a cholera epidemic "had splendid success" with the two hundredth potency of camphor.[5] They feel hesitancy in accepting as true, the statement that common table salt can be so changed by the homeopathic method of trituration and administration that it "will cure more cases of intermittent fever than any other known remedy." Yet a homeopathic author says: "With the thirtieth dilution I have cured several hundred cases with this drug alone."[6]

Without presuming to question the honesty of opinion of these authors, non-sectarian doctors believe that knowledge, possessed by the general public, is sufficient to cause distrust in the scientific accuracy of these observations and statements.

Much of the evidence given by Hahnemann and his early followers on the law of similars (*similia similibus curantur*, as he puts it) is open to the same criticism as to accuracy. Until rigid scientific investigation proves the truth of Hahnemann's law of similars and his doctrine of potentization and dynamization of drugs in almost infinitesimal doses, the physician who believes in the scientific character of medicine is compelled by logical reasoning to class Hahnemannism and homeopathy with Brunonism, Bronssaisism, Humoralism, Solidism, and the other systems, schools or sects of medicine, which have long fallen under the ruthless knife of scientific research. These were also speculative and founded on the deductive system of reasoning.

If the truth of Hahnemann's propositions are ever scientifically demonstrated, they will accept them as heartily as many of them do Dr. Koch's recent demonstration of the connection of consumption with the tubercle bacillus, and as most of the world does Jenner's assertion that vaccination protects from smallpox.

An apparent demonstration of the erroneous character of Hahnemann's teaching is the fact that many physicians who are classed as homeopaths do not believe in the small doses advocated so strenuously by Hahnemann, nor in the universality of the homeopathic law of similars. I call these gentlemen homeopaths because they teach in homeopathic colleges and belong to homeopathic societies; and thereby accept the designation.

It is not to be wondered at, then, that physicians at large can not accept homeopathy, when even Hahne-

[3] JOURNAL AMERICAN MEDICAL ASSOCIATION, March 17, 1894, p. 371.
[4] A. Lippe in Cincinnati Medical Advance, 1876, vol. III, p. 544, quoted by E. H. Berridge in Homeopathy Vindicated, p. 18.
[5] Homeopathy Vindicated, E. H. Berridge, p. 16.
[6] Burt's Physiological Materia Medica, p. 602, quoted by Hemenway, JOURNAL AMERICAN MEDICAL ASSOCIATION, March 17, 1894, p. 367.

mann's avowed followers give evidence in their practice and writings of their defection from his teachings.

Two years ago I gave in an address [7] evidence of this defection of homeopathic physicians from the doctrines of Hahnemann. At this time I shall only record the statement of Dr. Jabez P. Dake, a high authority in the homeopathic school, made in 1894 at the meeting of the American Institute of Homeopathy. In an article entitled, "What the Homeopath should know of Drugs," [8] he says:

"We can not imagine a physician who is entirely limited to the homeopathic use of drugs." In speaking of the symptoms produced by drugs, detailed, by the votaries of homeopathy, after "provings," he says: "It is a lamentable fact, shown indisputably by the higher medical criticism, that the sources of impurity, the gateways to the realms of imagination, misapprehension, and even fraud, were not all shut while the drug pictures were being taken. Applying all the rules of evidence to the witnesses whose testimony constitute our materia medica, we must realize that very few of them have come up to the standard requiring the 'the truth, the whole truth, and nothing but the truth,' concerning drug effects."

It is this aspect of the case which prevents the members of this society and other non-sectarian physicians believing in the scientific accuracy of many of the observations recorded in homeopathic works.

If homeopaths themselves do not believe in the general accuracy of the statements in Hahnemann's "Materia Medica Pura," Jahr's "Manual" the "Enclycopædia of Pure Materia Medica" and the "Cyclopædia of Drug Pathogenesy," it is not surprising that others can not bring themselves to believe in the universality or infallibility of the homeopathic law.

Samuel Hahnemann was born in Germany in the year 1755 and died in 1843. He founded the homeopathic school of medicine, which is the only school, system or sect of medicine of any importance at the present time. The vitapathist, vita-chemical, physio-medical, eclectic and Christian science schools are less important. The adherents and quasi-adherents of homeopathy probably exceed in numbers the adherents of all the other sects of medicine taken together. This is partly due to the circumstance that many practitioners who are classed with homeopaths are really practitioners of rational or scientific medicine, with a belief in the truth of some, but not all, of Hahnemann's teachings. They are the subject of bitter denunciation by those who still accept homeopathy in its entirety.

Dr. John C. Morgan [9] complains greatly of the prevalent neglect in teaching homeopathy in homeopathic colleges. He says that some instruction is given to the freshman classes; but that "if the second, third and post-graduate years had been planned for this obliteration of Hahnemannism the result could scarcely be more complete."

This inattention to homeopathy in the colleges of that school seems to be due to the fact that the great mass of their teachers have little faith in the principles insisted upon by Hahnemann. They have apparently seen the defect of the homeopathic law, but are not yet willing to disavow a belief in its infallibility and universality.

Haller, who died in 1777, when Hahnemann was still a young man, may be said to be the father of the modern science of medicine. He rejected all theorizing on medical topics and all attempts to find laws of treatment or found systems or schools of medicine. He argued that rational or scientific medicine could only be reached by exact and critical study of anatomy, physiology, pathology, and the effects of remedial agents on the functions of the body.

The claim that Hahnemann first formally enunciated the doctrine that remedies should be studied by administration to healthy persons seems to be untrue, as Haller preceded him in this assertion. Hahnemann is said to have divined or discovered the homeopathic law of similars, as it is called, about 1790. It was probably not entirely new.[10]

It has been truly said [11] that rational or scientific medicine began its life when Albrecht von Haller recognized the fact that "the laws of nature are not things which we can evolve by any speculative method. On the contrary, we have to discover them in the facts; we have to test them by repeated observations and experiments. In proportion only as they hold good under a constantly increasing number of cases, and in the greater delicacy in the means of observation does our confidence in their trustworthiness rise."

Hahnemann's first doctrine was the so-called law of Nature "*similia similibus curantur*"—like things are cured by like things—which he describes as a "law until the present time, although it has on all occasions formed the basis of every visible cure." [12]

This law of similars is the basis of his system which he called homeopathy from two Greek words, signifying "similar" and "suffering" or "disease." It is strange that while he in some places speaks of the law being first taught by himself, he, in other parts of the Organon, admits it was not without previous advocates.

The second doctrine of Hahnemann's system is that dilution of drugs increases their curative power. The potentization or dynamization of drugs, as this increase of power in diminishing quantities is called, is accomplished by taking one part of sulphur, for example, and rubbing or triturating it with ninety-nine parts by weight of sugar of milk. This is the first trituration, designated the first potency. One part of this sulphur mixture is then triturated in a similar manner with ninety-nine parts of sugar of milk, constituting the second trituration or potency. This process may be continued indefinitely, though Hahnemann considered that the best results were obtained, and the most "dynamic power" developed in the thirtieth potency or attenuation.

In the case of liquids, such as tincture of aconite, two drops of the "mother tincture," made of equal parts of expressed juice and alcohol, were mixed and shaken up with ninety-eight drops of alcohol to make the first potency, and successive additions of ninety-nine drops of alcohol were made to one drop of this first potency in a manner similar to that used with solid drugs.

It was necessary, according to Hahnemann, "not to rub or shake the drugs too much, or they might become too strong." He says: "Homeopathic medicines acquire, at each division or dilution, a new

[7] Points of Similarity between us and Homeopathic Physicians. JOURNAL AMERICAN MEDICAL ASSOCIATION, May 27, 1893.
[8] The Hahnemannian Monthly, July, 1894, p. 410.
[9] The Study of Homeopathy, etc. Trans. World's Homeopathic Congress, Chicago, 1894.

[10] Homeopathy, by Thos. W. Blatchford, p. 7.
[11] W. H. Wanburn, Medical and Surgical Reporter, July 11, 1891, p. 52.
[12] Hahnemann's Organon, p. 88.

degree of power by the rubbing or shaking they undergo, a means of developing the inherent virtues of medicines that was unknown until my time, and which is so energetic that latterly I have been forced to reduce the number of shakes to two, of which I formerly prescribed ten to each dilution."[13]

In the American Homeopathic Pharmacopœia of 1886, those interested will find detailed accounts of the various methods of preparing homeopathic remedies. The decimal scale of potentiation, introduced by Dr. Constantine Hering and now a good deal used, will also be found there described. Hering's decimal scale is distinguished from Hahnemann's centesimal scale by placing an x after the number of the potency; thus, "2x potency."

In order that liquids should not be shaken too much and made too strong, Hahnemann directed that, after the dilution was made to the potency desired, small globules of sugar of milk should be saturated with the solution. These would have the desired curative power, which would not accidentally be increased by shaking. The shaking is best performed by moving the arm from above downward; and if properly performed, imparts active medicinal virtue to substances usually regarded as entirely or almost inert. Pure carbon, flint, table salt and similar substances are by proper dilution made powerful curative remedies.

The belief of the author of homeopathy in his system is shown by these words: "The most violent pleuritic fever, with all its attending alarming symptoms, is cured in the space of twenty-four hours at the farthest, ... by giving one globule of sugar impregnated with the juice of aconite of the decillionth (thirtieth) degree of dilution."

In cases of overloaded stomach "the patient should '*smell once*' a globule of sugar the size of a mustard seed, impregnated with the thirtieth dilution of pulsatilla," and be "infallibly cured in the space of two hours."

Hahnemann's next "great truth, which remained concealed from all my predecessors and contemporaries," is that all diseases, except two, owe their origin to a "chronic miasm" which had descended through many generations of men from the itch (psora). His statement is:[14] "This psora is the sole, true and fundamental cause that produces all the other countless forms of disease which, under the name of nervous debility, hysteria, hemicrania, hypochondriasis, insanity, melancholy, idiocy, madness, epilepsy and spasms of all kinds, softening of the bones, or rickets, scoliosis and kyphosis, caries, cancer, fungus, hematodes, pseudo-morphæ of all kinds, gravel, gout, hemorrhoids, jaundice and cyanosis, dropsy, amenorrhea, gastrorrhagia, epistaxis, hemoptysis, hematuria, metrorrhagia, asthma and phthisis ulcerosa, impotency and sterility, deafness, cataract and amaurosis, paralysis, loss of sense, pains of every kind, etc., appear in our pathology as so many peculiar, distinct and independent diseases."

Another of the principles of homeopathy was that no two medicines should be administered at the same time. A single drug in an infinitely small dose is the only medication allowable.

Some homeopaths believe that in chronic diseases a single dose of a homeopathic remedy may cure. Dr. J. C. Morgan, for example, asserts that "Sometimes, as in tumors, a single dose, once in thirty days, as of sepia or hepar sulph., has done [15] good 'alterative work.'"

The desire to obtain "similars" has led some homeopathic physicians to employ unusual remedies from the animal kingdom. Dr. Morgan in the paper above quoted makes this assertion: "Dr. Samuel Freedley informed me of his curing himself of an 'old man's ulcer' of the leg by tarantula cubensis. I reasoned that an animal so low represents degraded human tissue, and is homologous with low disease changes. Hence I have used cimex with benefit in ulcer of the rectum. . . . ." The tarantula cubensis is a large spider of the West Indies; the cimex is the well-known bedbug.

The American Homeopathic Pharmacopœia published in 1883 by Boericke & Tafel shows[16] that the cimex or bedbug is made for homeopathic practitioners as follows: "The live insect, crushed, is covered with five parts by weight of alcohol. Having poured the mixture into a well stoppered bottle, it is allowed to remain eight days in a dark cool place, being shaken twice a day. The tincture is then poured off, strained and filtered. Amount of drug powder one-tenth. Dilutions must be prepared as directed under Class IV."

The medicine called by homeopathists "blatta Americana" is prepared from the great American cockroach. In this case "the live animal is crushed and triturated, as directed under Class IX."[17] In preparing "mephitis" one part by weight of the characteristic fluid expelled by the polecat or skunk is dissolved in ninety-nine parts by weight of alcohol.[18] Variolinum is prepared by Boericke & Tafel for homeopathic uses[19] by triturating the contents of a ripe smallpox pustule as directed under Class VIII. Psorinum was introduced as a medicine by Dr. Constantine Hering,[20] who says: "I collected the pus from the itch pustule of a young and otherwise healthy negro. . . . . I opened all the mature, unscratched pustules for several days in succession, and collected the pus in a vial of alcohol. After shaking it well and allowing it to stand, I began my provings with the tincture on the healthy. . . . . I administered it to the sick with good results, and sometimes witnessed aggravations."

Dr. Samuel Swan, who deals in homeopathic remedies in high potencies in New York, says in his catalogue:[21] "In order that all should have the benefit of high potencies, the plan of sending grafts has been adopted; if a graft is put in a vial of any size and the vial filled with unmedicated pellets and corked, the whole will be medicated in half an hour." He indicates on the same page of this catalogue that when a vial of medicine is nearly emptied, the physician can fill it up with unmedicated pellets, which will become medicated by being in company with the pellets previously contained in it; thus presumably acting in a manner similar to the grafts spoken of in the paragraph quoted above. He says: "You will not have to purchase the remedy a second time."

Among the remedies advertised are: "Pus from rectal abscess." "Pus from caries of os calcis." "Pus

13 Organon, p. 205.
14 Organon, p. 122.

15 The Study of Homeopathy, etc., Trans. World's Homeopathic Congress, 1893. Reprint, p. 45.
16 P. 175.
17 American Homeopathic Pharmacopœia, 1883, p. 123.
18 Idem, p. 307.
19 Idem, p. 449.
20 Idem, p. 380.
21 Catalogue of morbific products, nosodes and other remedies, in high potencies. Second edition, 1886, p. 31.

from septic abscess" (p. 21). "Vomito; blood from a yellow fever patient while moribund." "Sal cerebri; salt secreted profusely from a gentleman's scalp, with the perspiration, and on drying it was crytallized so heavily his head looked frosted" (p. 30). "Pediculus capitis," "Pediculus corporis, from Boston" (p. 20). "Tinien syphilitica, syphilitic patient with tinea capitis" (p. 25). "Luna (moonlight)" (p. 16). "Helios, the sun" (p. 13). "Omnia" (p. 29).

I do not know the standing of Dr. Swan as a homeopathic pharmacist, but the fact that his catalogue has reached its second edition would seem to indicate that he is patronized by homeopathic physicians. He does not state in what diseases "moonlight" or "pediculus corporis" (body louse) "from Boston" are employed by homeopathists.

To determine for what diseases the several drugs are cuative, it was, of course, necessary to find out what symptoms the drug produced in a healthy human being. Therefore an infinitesimal dose of the substance to be proved was taken by a healthy person, preferably a physician, who then noted, once, twice or thrice a day, the sensations and occurrences he found in himself for a period of several days. These symptoms, called the pathogenesis of the drug, were recorded in catalogue form. Each drug so proved has many pages of symptoms recorded.

The real homeopathic physician, who has a sick man to treat, looks over this list of drug symptoms, and administers an infinitesimal dose of a single drug which is found in the table to produce symptoms "similar" to those presented by the patient. For example, a drug which has produced symptoms pertaining to the head is to be given to a patient presenting "similar" but not "identical" head symptoms.

Dr. Berridge, an ardent homeopath, relates[22] a case of congestion of the brain, and condemns the homeopathic doctor who stopped giving arnica because, as he said, "he did not believe it acted on the head more than on the big toe." The argument of Dr. Berridge is that the doctor was too ignorant to know that "Allen's Encyclopedia gives seven symptoms of arnica belonging to the big toe and nearly one hundred belonging to the head."

I mention this to show the reader how homeopathy undertakes to cure disease. The changes in the fluids and the alterations in the tissues of the body are not to be investigated for the purpose of discovering the cause of the patient's disease. His symptoms are to be noted and then a search made among the lists of "proved" drugs for one that induces similar symptoms. A recent paper published in the *Hahnemannian Monthly*, February, 1894, by Dr. Joseph C. Guernsey is entitled, "Symptoms, the Basis of Homeopathic Prescribing," and illustrates the method I have described.

The skill which makes one homeopath better than the other, lies in "selecting the remedy" or "*similimum*" which most nearly simulates the symptoms. The remedy whose drug effect corresponds most nearly with the greatest number of disease-effects in the patient is believed to be the most certain cure. Herein lies the difference between the successful and the unsuccessful homeopathic physician, according to the doctrine of homeopathy.

Many devices have been employed by homeopaths to aid in "selecting the remedy" from the multitudinous lists of symptoms found in their text-books. Boenninghausen's "Therapeutic Pocket-Book," Jahr's "Symptomen-Codex" and "Repertories" are the refuge of the true Hahnemannian. Dr. Morgan, for example, tells us[23] that he once sought a remedy for a case of intermittent fever, with chill beginning on the right side. Taking Jahr's "Symptomen-Codex," he examined the "fever" rubric of every drug, and found under Rhus tox., "the left side of the body felt hot, and the right side cold," etc. Examining for the other symptoms, pain, etc., this drug was found to have all of them; and Rhus tox. was then known to be the remedy. The same author describes the "numerical method" of finding the remedy thus: "Its most salient expression is found in Dr. W. J. Guernsey's "Boenninghausen." In this the rubrics of the "Therapeutic Pocket-Book" are printed upon separate long strips of stiff paper, with the *rank* of each drug thereunder, 1, 2, 3, 4, in numerals. Selecting the slips containing the various symptoms, they are placed side by side upon a table; then each drug, beginning with those of highest rank, is counted by adding all its printed numerals together. The one having the highest number is held to be the *similimum*, irrespective of the claims of keynotes, etc.

Homeopathy, therefore, lays no stress upon the importance of the study of physiology and pathology. Hahnemann says: "I can not comprehend how it is possible for physicians to imagine that they ought to search the interior of the human economy."

Some doctors, still calling themselves homeopathists, reject many of these doctrines of Hahnemann; but in so doing seem to be no longer homeopaths.

There are still in the ranks of homeopathy, however, those who believe in the universality of the law of similars and the potentiation of drugs by trituration and shaking. E. W. Berridge, for instance, shows by the following words his belief that the homeopathic law of similars is unfailing: "We, however, never give medicines for the cure of disease on any other law than that of similars, and have never any occasion to do so."[24] The statements in this quotation are Dr. Berridge's, not mine, and show the earnestness with which he makes the assertion that the law of similars is in his mind a universal therapeutic law.

Dr. Neidhard uses the words,[25] "If this fundamental law can be overthrown, then homeopathy, as a science, is as good as lost. If it is not a universal law of cure that will shorten the natural course of diseases, that will mitigate more permanently the pains of disease than any other method of cure, it will not deserve our respect nor our study." He says also that from the time of Hippocrates, and, as far as any records are left from the beginning of all times, all true cures of diseases were always performed according to the homeopathic law.[26]

He, on page 7, illustrates the working of this law of similars by citing the case of two ladies who were entirely exempt from seasickness at sea because they were previously subject to chronic sick headache with nausea and vomiting. The same author (p. 10) shows his belief in infinitesimal doses by reporting the account of a number of men who escaped cholera during an epidemic because they were engaged in making and selling copper articles. Copper,

[22] Homeopathy Vindicated, p. 47.

[23] Loc. cit.
[24] Homeopathy Vindicated, Liverpool, 1879, p. 38.
[25] Universality of the Homeopathic Law of Cure, by Charles Neidhard, M.D., Philadelphia, 1874, p. 4.
[26] Idem, p. 5.

it must be recollected, is believed by the homeopathic school to be a medicine of superior efficiency in cholera.

Dr. Neidhard likewise administers (p. 10) small doses of rattlesnake venom to destroy the appetite for liquor, because "whisky in large quantities is a well-known frontierman's remedy for the bite of the rattlesnake and is often successful." Further illustrations or proofs of the universality of the law of similars are given by the same author as follows (Id. p. 12). "A friend throwing some flowers, withered by a hot July sun, into a basin of warm water found them, some hours after, to his astonishment, as fresh as ever, completely revived."

"The best thief catchers and detectives are those who formerly have been engaged in the same business—that is, have been thieves."

"Disappointed love can cause consumption and rheumatism, but when you have it, it may also cure it—a true homeopathic cure" (Id. p. 13).

The homeopathic law is, according to Dr. Neidhard (p 21), operative in education. He says: "A vicious boy who pokes his umbrella into everybody's side is cured by letting him stand in a corner with an immense umbrella over his head until he is tired."

Dr. J. C. Guernsey says:[27] "If a remedy fails to act, after giving it in a potency sufficiently high to warrant a fair trial, we may make up our minds that we have not found the *similimum*, *i. e.*, we must blame ourselves and not the law *similia similibus curantur*."

Dr. J. H. McClelland says:[28] "In the homeopathic law, internal medicine has reached finality."

The *Organon*, a homeopathic journal of Liverpool, England, published some years ago (April, 1878) a "Declaration of Homeopathic Principles," signed by nearly one hundred and fifty homeopathic physicians, nearly all of whom were practicing in America. The first essential point of the homeopathic doctrine is given thus: "The cure of the sick is most easily, mildly and permanently effected by medicines that are themselves capable of producing in a healthy person morbid symptoms similar to those in the sick." Another essential point is: "*Local treatment* of all kinds in *non-surgical* cases is not only unnecessary, but is apt to change the location of the disease and induce dangerous complications, and never *permanently* cures."

The non-sectarian doctor does not understand the position of these homeopathic physicians on the subject of the numerous skin diseases that are so quickly cured by mild local measures. They are certainly cured permanently, and just as certainly are not surgical cases.

The above declaration appears to have been prepared by Dr. Adolph Lippe, of Philadelphia, who states that among homeopathic physicians "the departure from Hahnemann's teaching have rapidly multiplied." (Reprint, p. 5 and 7.) Hence the necessity for the preparation and publication of the "Declaration of Homeopathic Principles"; for in his opinion: "We must be governed by *infallible principles* and not by the *opinions of fallible men*." Dr. Lippe goes on to show that homeopathy allows no deviation from the homeopathic law, and indicates that the homeopathic physicians and homeopathic societies that approve of such liberality are not truly homeopathic.

[27] Hahnemannian Monthly, February, 1894, p. 82.
[28] Jubilee Address before American Institute of Homeopathy, 1894, p. 47.

Dr. James B. Bell, President of the International Hahnemannian Association, in his address delivered in June, 1892, said:[29] "Our society numbers in active living members about one hundred and fifty, and it would be a generous estimate, I think, to double that number, as representing in the whole world all those who may called true Hahnemannians, or who are becoming such. If we have patients going to other cities, especially in the West and South, how rarely can we recommend a physician to them, and if the patients are going to Europe or England, we know of but five or six men in the great cities to whom we can safely intrust them."

Until the recent establishment in the United States of medical examining and licensing boards it was practically impossible to determine the relative numerical strength of the homeopathic profession. In many States, all physicians have to pass a medical examination before being given a license to practice. Homeopathic physicians have insisted upon having a separate examination, and it thus has become possible to compare accurately the numbers of non-sectarian and homeopathic practitioners. In New York during 1892, 1893 and 1894, 713 applicants for license appeared for examination before the non-sectarian board of examiners, 80 applicants before the homeopathic board and 15 before the eclectic board.[30] In Pennsylvania during the year ending March 1, 1895, there were 331 non-sectarian applicants, 56 homeopathic applicants and 12 eclectic applicants.[31] The Illinois State Board of Health shows in its Report on Medical Education of 1894, that in 1893 there were graduated from the medical colleges of the United States and Canada 425 homeopathic physicians and 4,975 non-sectarian physicians. The number willing to graduate from homeopathic schools would seem by these figures to be about one-eleventh of those graduating from the non-sectarian schools. If the President of the International Hahnemannian Association, quoted above, is accurate in his statement, the relative proportion of real followers of Hahnemann is much less.

The attitude of modern medicine and its votaries to homeopathy and homeopathic physicians will be readily understood after this survey of the principles of homeopathy based on the writings of Hahnemann and his disciples. Non-sectarian physicians believe it is a duty to the patient that the doctor shall use every means of cure which seem to hold out a prospect of benefit. To limit himself to "similars," or to decline to use "local treatment of all kinds in non-surgical cases" because it "never permanently cures" seems to such physicians unjust in the one case and not in accord with practical experience in the other. To subscribe to a law of "similars," a law of "dissimilars" or to any other dogma of treatment and say that it is "infallible" and "universal" appears to him unscientific and a step sure to lead to harm to the sick man. He feels that he must have the whole world of science, medical and collateral, from which to draw; that he must have a right to use any remedy in any dose or form that seems to him good; and that he similarly must have a right to decline to prescribe according to any law if he have no faith in the law.

The refusal of most non-sectarian physicians to meet homeopathic physicians in consultation over

[29] The Homeopathic Physician, Philadelphia, August, 1892.
[30] New York Medical Record, May 4, 1895.
[31] Compiled from statement received from Medical Cou Pennsylvania.

cases of disease, is based on the *exclusiveness* of homeopathy. So long as the homeopathist believes in the exclusive dogma that "like cures like" and is therefore debarred from using remedies and methods and doses which do not conform to that law, the non-sectarian physician feels unwilling to consult with him, because the homeopathic doctor would be prevented from using any and every drug and method. Hence, the hands of the non-sectarian doctor would be tied and the consultation would not give the patient all the advantages that ought to be at his service.

This is the position that has long been taken by the AMERICAN MEDICAL ASSOCIATION, the representative of the non-sectarian medical profession of the United States, and its affiliated State medical societies and county medical societies. The Code of Medical Ethics of the AMERICAN MEDICAL ASSOCIATION in Art. IV, Sec. 1, says:

"But no one can be considered as a regular practitioner or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry."

The following explanatory statement was adopted by the ASSOCIATION about twelve years ago:

WHEREAS, Persistent misrepresentations have been and still are being made concerning certain provisions of the Code of Ethics of this ASSOCIATION, by which many in the community, and some even in the ranks of the profesion, are led to believe those provisions exclude persons from professional recognition simply because of differences of opinions or doctrines, therefore

1. *Resolved*, That clause first, of Art. IV, in the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

2. *Resolved*, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper, to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

3. *Resolved*, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations can not be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is a pressing or immediate need of them. On the contrary, to meet the emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire Code.

As soon as a homeopathic physician asserts that he is willing to give any drug in any dose and to use any method of treating disease that holds out a reasonable prospect of benefit, and states that he is not bound to practice *exclusively* according to the homeopathic law of similars, he becomes eligible for membership in the AMERICAN MEDICAL ASSOCIATION, and the State and county societies connected with it. There are thus at the present time, quite a number of physicians connected with the AMERICAN MEDICAL ASSOCIATION and its constituent societies, who previously were considered and considered themselves to be homeopaths. As will be readily understood from the Section from the Code of Ethics, above quoted, such gentlemen are no longer considered undesirable physicians to meet in consultation.

As has been stated in the earlier part of this paper, a very large proportion of the graduates of homeopathic colleges no longer believe in the infallibility of the law similars, and do not restrict their practice to treating diseases according to its principles. All such physicians become eligible for membership in the AMERICAN MEDICAL ASSOCIATION and in the society which I now address, by the simple statement that they do not believe in the infallibility of Hahnemann's law, and who constitute, according to Dr. Bell, a very small proportion of the physicians considered by the public to be homeopathists, would not be eligible to membership in the AMERICAN MEDICAL ASSOCIATION, or similar organizations of physicians, because they believe and practice according to an exclusive dogma.

Those graduates of homeopathic colleges and members of homeopathic societies, who admit that the law of similars is sometimes fallible, seem to be unwilling to publicly assert their modified belief in Hahnemann's teachings. By permitting themselves to be called homeopathic physicians by the public, though really not practicing according to Hahnemann's law (except in a proportion of their cases) they seem to be using the name "homeopathist" for the purpose of making the public believe that they are in some indefinite way different from all other physicians; and that they possess powers different from those possessed by physicians who do not accept the designation, "homeopathist." Non-sectarian physicians look upon this assumption of a special title as derogatory to the votaries of any science.

This is the reason that homeopathists are sometimes referred to as doctors who assume a sort of trade-mark for the revenue that may be derived from such a designation. Hence, many non-sectarian physicians contend that a man graduated from a homeopathic college, or publicly professing to practice homeopathy, should not be considered worthy of being met in professional consultation unless he publicly disclaims the title "homeopathist," and asserts that he is willing to practice by other methods as well as those prescribed by Hahnemann.

Dr. Solomon Solis-Cohen states[32] his position thus: "If, however, one whose personal character fits him for membership in this society, but who had formerly professed homeopathy, becomes convinced of his mistake, and desires to join the ranks of scientific medicine, he should be freely received; provided only that he repudiates any sectarian designation and gives to the censors satisfactory evidence of his professional attainments. More than this we ought not to ask. Less than this we can not honorably accept."

A considerable proportion of the non-sectarian profession, however, is of the opinion that it is unreasonable to expect men who have been associated with homeopathic colleges and societies to make such a *public* disclaimer. They think it should be sufficient for such gentlemen to show by their actions that they do not believe in the infallibility of Hahnemann's law; that the very fact that they use methods of treatment founded on anatomy, chemistry, physiology and pathology, should be sufficient to entitle them to join the AMERICAN MEDICAL ASSOCIATION and similar professional organizations.

This is the view of a recent correspondent of the *Medical News*, whose name I do not know, who says: "If they were allowed to come into the regular societies without going down on their knees and confessing that they have been sinners, and being forced to renounce their previous faith, they would

[32] Journal AMERICAN MEDICAL ASSOCIATION, Oct. 21, 1893, p. 619.

soon after admission stop preaching homeopathy, as they became accustomed to their new positions, with that gradual change of mind that good fellowship produces. The majority of them now do not practice homeopathy, but they are forced to preach it in self-defense."[33]

The attitude of physicians and modern medicine to homeopathy, then, is that assumed by these two classes of non-sectarian physicians, namely, those who insist that the homeopathist must make a formal public disclaimer of exclusiveness; and those who think it sufficient that he should simply indicate in any way that he is willing to treat patients by any drug, dose or method, that seems to him to be worthy of confidence in the treatment of disease.

The New York State Medical Society has publicly proclaimed itself of the opinion that a physician should be free to consult with any other doctor who seems to him personally to be worthy and likely to be of service in the treatment of the patient under consideration. This action caused the formation of a new State medical organization by those non-sectarian doctors of New York, who believed that homeopathists should make a formal disclaimer before becoming eligible for professional consultation. This society is called the New York Medical Association. No action similar to that of the New York State Medical Society has been taken by any other State medical society or by the AMERICAN MEDICAL ASSOCIATION; but a considerable proportion of the membership of these organizations seem to believe that the action of the New York State Medical Society should be followed; I do not know of any member of the AMERICAN MEDICAL ASSOCIATION refusing professional recognition to members of the New York State Medical Society since it took the step mentioned. It is probable that in a few years the world will see most physicians consulting with those homeopathic graduates, who are willing to treat patients by any and all drugs, doses and methods, without demanding of a *formal* recantation of their former belief in the exclusiveness and infallibility of Hahnemann's law of "similars."

Much of the instruction received by students in homeopathic colleges at the present time is identical with that given in non-sectarian medical schools. That this is well known is evident from the fact that the Association of American Medical Colleges has passed by-laws permitting those who have received instruction in homeopathic schools to advanced standing in the colleges belonging to the Association[34].

The Woman's Medical School of the Northwestern University, at Chicago, admits to the senior class graduates of homeopathic and eclectic medical colleges who "have taken considerable post-graduate work[35] on the same terms as graduates of non-sectarian medical colleges. This action is especially significant, because Dr. N. S. Davis, an ex-president of the AMERICAN MEDICAL ASSOCIATION, is one of the Trustees of the University; and two members of the Faculty (Drs. D. W. Graham and E. Fletcher Ingals) are Trustees of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

33 Medical News, March 30, 1895.
34 Bulletin American Academy of Medicine, August 1894 p. 532.
35 Circular of Information for 1894-95, p. 11.

THE JOURNAL TRAIN for Atlanta will leave Chicago Sunday, May 3, 1896.

MEDICAL ASSOCIATIONS AND IDEALS.

Retiring President's Address before the Denver and Arapahoe Medical Association.

BY J. N. HALL, M.D.

PROFESSOR OF MATERIA MEDICA, THERAPEUTICS AND CLINICAL MEDICINE IN THE UNIVERSITY OF COLORADO.

DENVER, COLO.

In retiring from the chair I wish to thank the members of this society, for myself and my brother officers, for the cordial support which has been accorded us during the year. As the custom of the society requires that the President shall make some remarks upon laying down the gavel, I shall ask you to consider with me the relations of physicians to medical societies, their duties toward them and the advantages to be derived from membership in them. The function of the medical school is to teach anatomy, pathology, medicine and surgery, and the other branches which go to make up a physician's education. But the graduate, with this knowledge, is not all that a physician should be, for there are many things yet for him to learn before he can become a polished member of the profession. Where the medical school leaves off the medical society should begin, that the young practitioner may absorb, may imbibe from his fellows the things which the school can not teach—the traditions, the ethics, the etiquette, the high ideals which make our profession, not a trade, but a liberal profession, which has come to us in its present shape because enriched by the labors of our predecessors for more than two thousand years. If the physician is to add anything to the knowledge of his guild, and he can not pay the debt he owes to the profession unless he does, he must have high ideals. As the stream does not flow higher than its origin so, in our craft, good work can not come unless the inspiration is drawn from a high source.

If you note in your morning paper that, in Montana, or Alabama, or Maine, a horse has trotted a mile in two minutes and ten seconds, you may wager with almost absolute certainty of winning, that there flows in his veins the blood of Darley's Arabian, or the Byerly Turk, or the Godolphin Arabian, for the reason that no horse ever trotted a mile in that time unless he sprang from the great English thoroughbred race, which, in turn, sprang from the sources indicated. Nurtured for two hundred years by the most skillful breeders of England, this race has given origin to the fast horses of every country where modern civilization holds sway.

In analogous manner we may trace the origin of every great discovery in medicine. We will mention, however, but two examples. When a student I used to wonder how it happened that Jenner, a country physician, gave us his immortal discovery. When I learned that he had been a favorite pupil of the great John Hunter, and had, for some years, resided in the teacher's house, the matter was plain. Who could have studied under this famous physician, surgeon and naturalist without becoming imbued with his zeal to do something for the benefit of the profession to which he belonged, and for humanity, which was his charge? I wondered also how it happened that the first ovariotomy should have been performed away out on the western frontier, remote from medical centers, in the wilds of Kentucky; how it could be that the great European schools had no part in it, and that New York and Philadelphia equally lagged

behind. But when I learned that McDowell had received his degree in Edinburgh, and had studied under old John Bell, who by his own personal force had built up under the adverse conditions of those times, a great school of anatomy and surgery, the mists cleared away. It became plain then how there arose on the border of an unknown wilderness the man with the requisite anatomic knowledge, the technical skill and, above all, the magnificent courage to do this operation, and, what was more, to defy the howling mob without, who threatened him with death in the event of a fatal result, while the sheriff waited to arrest him if he escaped from the mob. What finer example could be quoted of loyalty to the highest ideals, under the most trying circumstances?

All leaders of men, in all times, have benefited by the knowledge that high ideals were needed for great works. One of the best illustrations may be drawn from the history of our mother country. When Cromwell saw his irregular troops scatter before the king's cavalry at the battle of Edgemoor, he told Hampden "that decayed serving men and tapsters . . . could never encounter gentlemen and persons of quality." And did he then enlist men with broader shoulders or with thicker loins to fight the king's regular troops? No! He took advantage of the gloomy, religious fanaticism of that age, and gathered about him men who could lead a prayer meeting, or advance into battle singing psalms or storm a redoubt in the silent hours of night with equal ability. He led them to believe that in fighting the king's army they fought, not only for their country, but for their religion and their God; and these men, the Ironsides, became the finest body of troops the world knew, for they were never defeated in battle. Marston Moor and Naseby testify to the wisdom of their great organizer and leader.

But, you say, this was religion, and has no bearing upon our subject. But it has, for it makes no difference what the motive may be, so long as it is present. An equally striking example I can give from our own history. Ten years ago I examined a soldier for a pension, and drew from him this story: "He had been captured, after being wounded, with that battalion of Federal infantry which was sent into Cumberland Gap, to prevent the passage of hostile troops through that important thoroughfare. The Confederates, realizing its importance, had sent a heavy force into the gap from each end, and, after a hard day's fighting surrender became inevitable. The Federal troops were commanded by a major of the regular army, a West Pointer, who had grown up in the service, full of the etiquette and traditions of army life, and whose hair, as Scott tells us of Marmion's

> 'Was grizzled here and there,
> But more from toil than age.'

"As the Federal firing ceased a Confederate captain, accompanied by a cavalryman, dashed up and demanded the major's sword, the trooper meantime covering the major's breast with his carbine. Looking by the weapon's grim muzzle and observing the rank of his would-be captor, the Union officer said: 'Captain, I am a major in the regular army, and by the living God, sir, I will not surrender to my inferior in rank.' And the captain, marking the character of the man he had to deal with, replied: 'That's all right, major, I'll send for a proper person to receive your sword;' and he dispatched the trooper with instructions to bring up the colonel of his regiment, to whom the sword was gracefully delivered."

And are we, the members of the medical profession, less susceptible to the influence of high ideals than this soldier who, his breast covered by a musket, the trigger pressed by a hostile cavalryman, faced death rather than yield one point in the etiquette of his profession? Are we less influenced by the traditions which come down to us concerning our proper mode of life than other men? Can anyone gainsay that the members of this society, or of our State society, do better work because they feel that they stand upon an equal footing with the best men in our profession in this State?

Did you ever study why it was that some physicians fail to attend the meetings of the medical societies? Perhaps it begins in carelessness or laziness, but sooner or later such men are likely to get so far behind their brethren that they do not attend because they are painfully conscious of the fact and fear to appear at a disadvantage. Such men remind me of a certain little boy who went to the great metropolis with his father. He was cautioned not to talk with the street arabs, because, being from the country, he would show his ignorance, and they would think him a fool. Finally, after asking him many questions without receiving any answer, one of his tormentors said: "Why, he must be a fool." And Freddy, bursting into tears, said to his father: "There, dad, I didn't say a word, but they found out I was a fool anyhow."

Further, the physician who does not associate with his fellows runs great risk of falling into one of two errors. Either he becomes an egotist because he fails to see the good work that others are doing, or, if of a timid nature, and faithful in his work, from knowing his own weaknesses so well, he feels that he is immeasurably behind his brothers in the profession. One can not see where he stands in the race unless he sees both those in front of him and those in the rear.

Let us, then, support warmly our medical societies. Let us inculcate into the minds of the younger men all that is best of the sacred inheritance which has come down to us from the earliest times, that they may know the debt they owe to the profession, and be led to attempt to add something to our store of knowledge, as an acknowledgement of the immensity of the debt. Let us instill into them ideals so high that they shall make of our occupation, not a mere trade, but what it should be, a liberal profession, and, I thank God, the noblest profession it is given to the sons of men to follow.

ORIGINAL ARTICLES.

MENSURATION OF THE DEFORMITY OF HIP DISEASE.

Presented at the Ninth Session of the American Orthopedic Association, Chicago, 1895.

BY A. B. JUDSON, M.D.

ORTHOPEDIC SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

NEW YORK.

The object of the present paper is to facilitate methods of recognizing, measuring and recording the degrees of deformity of hip disease. A great advance in the study of this subject was made in 1877 by our

Corresponding Member, Mr. Howard Marsh. I reproduce, in Figs. 1–5, the original figures with which he illustrated his first lecture on hip disease at the London Hospital for Sick Children. These figures, modified in various ways, have reappeared many times in the literature of this subject, and to one clinically familiar with these deformities they do not require explanation. Mr. Marsh's lecture contains a complete exposition of the mechanics of the deformity of hip disease, and it will not be easy to add anything to what he has said.[1] I have, however, constructed the movable models represented in Figs. 6–10, in order to make this difficult subject more easy of comprehension.

FIGURE 1.

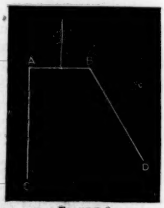

FIGURE 2.

As seasoned practitioners we appreciate at a glance the clinical significance of abduction or adduction when combined with fixation. Abduction means apparent lengthening and adduction, apparent shortening. Abduction and lengthening, adduction and shortening, flexion and lordosis, are to us mentally interchangeable terms, but it may not have occurred to us all that these factors of deformity may be easily measured and recorded, and that we may thus better appreciate the importance of affording relief and the merits of whatever method we may adopt to remove or prevent deformity. The dolls, in Figs. 6 and 7, were arranged and photographed several years ago. They show graphically the degrees of motion and deformity, but they can not, from the immobility of

FIGURE 3.

FIGURE 4.

FIGURE 5.

their vertebral joints, show the effect of the disease on the length of the limb or the curve of the spine. These effects are, however, shown in Figs. 8–10, in which figures cut out of press-board take the place of dolls, and are so put together that they exhibit motion, and also the arrest of motion, not only at the hip, but also at the vertebral joints.

The figures explain themselves to a certain extent. The joints are made of eyelets not pressed too hard with the "eyelet-set," and loosely screwed to the background at V in the full figure, and at H in the profile. The piece representing the thorax in the profile is reinforced at the back by a thin piece of brass, as the edges of the press-board were found to wear out against the four screws which act as guides. The spring clip is a "scarf-retainer." The apparatus is easily made, and is useful in class demonstration.

To show the effect of lateral deviation with fixation.—The full figure is first arranged symmetrically as in Fig. 8. The clip applied at A binds together the piece representing the pelvis and that representing the trunk, and thus prevents motion in the vertebral

FIGURE 6.

joints, at V, while motion at the hip joint is free. The limb is then drawn into adduction, as in Fig. 9, and the clip is removed from A, releasing the vertebral joints, and applied at B, where it fixes the hip joint, at H, by binding together the pieces representing the pelvis and the femur. When an attempt is then made to restore symmetry or to make the limbs pa-

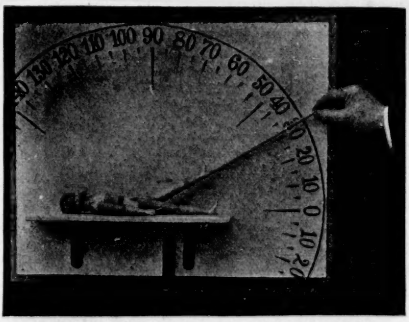

FIGURE 7.

rallel, the figure exhibits tilting of the pelvis and apparent shortening, as in Fig. 10. In like manner, abduction and fixation may be made to produce apparent lengthening. A fortunate result is that in which the patient recovers with enough apparent lengthening to annul the real shortening caused by loss of bone or unequal growth.

To show the effect of flexion with fixation.—The cuts may be turned sideways so as to present the profile recumbent. The clip applied at A, as in Fig. 8, binds

[1] British Medical Journal, July, 14, 1877, pp. 37-39.

together the pieces representing the pelvis and the trunk, and thus prevents motion in the vertebral joints, V V, while motion at the hip, at H, is free. The limb is then raised in flexion, as in Fig. 9, and the clip is moved from A to B, releasing the vertebral joints, and fixing the hip joint. When an attempt is then made to reduce flexion or lower the limb to the table, the result is lordosis, as in Fig. 10.

It is interesting to note, by observing the transverse dotted lines, that the patient's height is in-

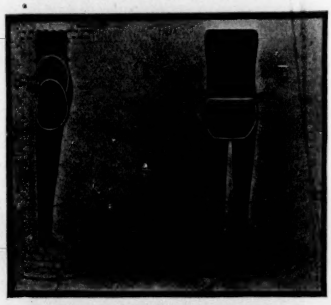

FIGURE 8.

creased by either adduction or abduction, and decreased by flexion when either is combined with fixation. The height is diminished in lateral curvature of the spine by the sigmoid curve, in Pott's disease by kyphosis, and in hip disease by lordosis. The deformity of hip disease may readily and with sufficient accuracy be measured by the use of the goniometer, two forms of which are shown in Figs. 6 and 9. This instrument is simple in construction and may well be in frequent clinical use. The one shown in Fig. 9 is made by attaching arms to a protractor.

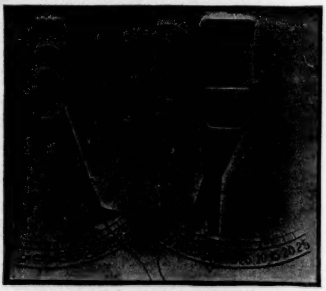

FIGURE 9.

To measure adduction or abduction.—The limb is slowly moved in the direction of adduction and abduction alternately until, after repeated trials, it is seen that when it is held at a certain point in the arc of lateral motion the iliac spines are at right angles with the axis of the trunk. One arm of the goniometer is then held parallel with a line connecting the iliac spines. If the table is against the wall of the room, it is convenient to see that the iliac spines are at right angles with the wall, and then the arm of the goniometer may be directed point blank at the wall. The other arm is then made to coincide with a line parallel, as near as may be, with the axis of the limb, which may, for this purpose, be considered to extend from the middle of Poupart's ligament to the middle of the heel. If the axis of the thigh only is considered, the incidental presence of genu valgum or varum would impair the value of the observation. The degrees may then be counted on the scale of the protractor.

To measure flexion.—With one hand the limb is slowly raised and lowered until, after repeated trials, it is found that, when the limb is held at a certain point, the lumbar spines press gently on the fingers of the other hand placed under the back. One arm of the goniometer is then held horizontally by the hand released from under the back while the other arm is made to coincide, as near as may be, with a line parallel with the axis of the mass of the limb. The degrees then read off on the inner scale of the protractor are degrees of flexion. Although its determinations are, from the nature of the case, only

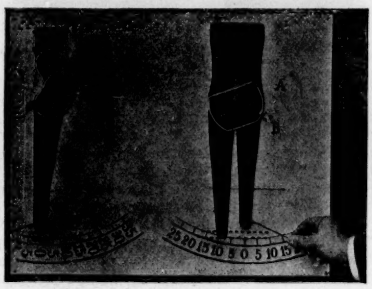

FIGURE 10.

approximate, the goniometer is an instrument of precision, and easily makes itself useful in practice.

Writers on this subject have usually viewed deformity as the result of immobilization of the hip joint. The figures and models referred to in this article have been constructed with that view. As a matter of fact, however, few cases present absolutely immovable joints at any stage. There is almost always considerable motion. In the acute stage the joint, which at the first glance appears to be motionless, is found to yield through an arc of many degrees in response to gentle force rightly applied. Later in the course of the disease many cases show wide and free passive motion in different directions, and the point at which motion is arrested often varies from day to day. And even in after life the position of the limb is subject to considerable variation. The use of the goniometer facilitates recognition of these phenomena. Further observation in this direction may add to our knowledge and to the efficiency of treatment.

Artificial Larynx.—At a recent meeting of a medical association in Berlin, Glück presented two patients with artificial larynx he had treated during the year. One, a middle-aged man, could speak naturally and distinctly although the entire larynx had been removed.—*Therapeutische Wochenschrift*, January 18.

NORMAL MIND.

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CHICAGO.

PREFACE.

The scope of this article is little more than a suggestive outline of the subject in a fragmentary form. While some of my positions may be regarded as neither proven or self-evident, I am persuaded their correctness will become manifest on a careful consideration. At a later date I expect to deal more fully with some of the points under other headings. I have treated the question by contrast which will give a more accurate view than could otherwise result.

DEFINITION.

By the term normal mind I mean the prompt and coördinate action of all the mental faculties coexisting with pacific disposition or temper. It has no reference to knowledge in the numerical sense, nor capacity in the geometrical sense, but simply that state of mind which enables the individual to do his best in any given relation.

GENERAL ASPECT.

Of ten business or professional men selected at random, at least eight would commonly be regarded as normal in the sense of being representative of the community standard of free agency. But these eight will differ one from another to such an extent that each may meet his opposite in views and disposition in one way or another, and yet the faculties of perception, reason and will may be regarded in all as in good working order. Between the common types of different races and nations the same condition exists, a condition which, barring the difference of language, precludes harmonious action on any question of common interest, without a wasteful expenditure of both time and energy. This is evidence that the common normal is not the complete, and that perception, reason and will are somehow defective. But as there is naturally no essential difference between man and man viewed from both psychologic and physiologic standpoints, this difference must be due to difference in ideas and habits, and as every act not naturally instinctive is originally the productof an idea, the question of cause is resolved into: What ideas conduce to the really normal mind or approximately perfect?

When we consider the nature of ideas, it is evident they are not only true or false, but vary in importance or value as measured by their utility as means to an end—the scope of their application to final purpose, whatever that may be. Ideas of purpose being both the product of elaboration and motive to acts are either conservative of energy, or have an opposite effect, directly or indirectly. But as tone of brain is the equivalent of tone of mind, owing to mutual dependence, it is evident that a false purpose will induce a dissipation of energy which will reduce the intellectual range by its enfeebling effect. Thus the question arises, what ideas of final purpose are in harmony with nature that we may live to the best advantage—be serene in mind—coördinate with natural or necessary environment. To this end we might take the characters of great men who have been universally loved and respected, and find their actuating principles, which have done far more for our well-being than have pills and powders. We would find, on careful analysis, that the dispositions of egotism, malice and fear were seldom, if ever, manifested as they rarely existed.

EVOLUTION OF CHARACTER.

When we consider mind as an entity, the question of its environment begins at the germinal stage of life—the relationship of the chromatic (Weismann) elements to the differentiating entity of the protoplasmic nidus or environment, and which entity is finally manifested as mind. Excluding maternal accidents, the formative forces prevail under prenatal laws with the minima of impediments. At birth, the new environment with its stimuli to the senses, gives mental motions to a potential basis which is gradually cradled, so to speak, into manifest consciousness. The cosmic conditions, as ever present factors in the molding of the infant mind, pave the way for the apprehension of those great and everlasting impressions or intuitions which later dawn upon the reason and stir the powers to still greater action. Thus that eternal monitor, the conscience, is evolved alike in all human beings. Though as unalterable as the fixed laws of nature, of which it is the exclusive product, conscience may be perverted or clouded by criminal career or criminal influence—crimes against truth, justice and ecomomy. For the same reason that conscience is a fixed quality—the product of the fixed laws or operations of nature, and therefore of necessary experience—the inherent disposition against all aberrant conditions, physical and mental, is to assume the normal, a result that will always ensue if the evils of inherited bent and environment are not too strong for the healthy remnant. Otherwise "the weakest must go the wall,"—the wall of dissolution.

The infant mind is *passive*, receiving every impression with positive effect, and as the evil habits and conditions which contributed to its protoplasmic impress, or hereditary defect, may still rule the nursery, it is evident that mental restriction must follow with conscience crowded out of notice, or pointing in vain. Heredity, as the cumulative effect of all experiences cosmic, racial and ancestral, must necessarily give the child a bearing toward its external environment (trans-somatic) which will vary with the differences of transmitted impress, and consequently inclination and intuition will have different bents. Indeed, so powerful is transmitted bent that not uncommonly a child of criminal ancestry, though systematically educated under good influences, will revert to the criminal class, just as sometimes the young Indian from college does to his racial habits. Of course, the civilizing influences have only been *conforming* in effect, *not reforming*. Such disposition is due to the irksomeness of inaptness, a sort of intuitive leaning having a potential basis. Thus by early training, the natural, the necessary intuitions of the mind may be displaced by purely selfish ideas and criminal character be formed, such as the character of the burglar or the political or commercial knave. It is such cases that must be "born anew"—radically changed in views—before they can be brought in harmony with natural economy—with the great final purpose of nature which can only be correctly apprehended, even in part, by the normal mind—the fully free.

The stage of infancy is ruled by instinct and intuition almost entirely in the acquisitive form. At first ideas associated by suggestion gradually dispose the mind to analysis, then synthesis, and the faculties of

recollection, judgment and reason slowly evolved in due order. The experiences of all children, naturally treated, are essentialty the same, so that when they arrive at the age of reason, instinct and intuition lose their official importance and questions of conservative interest arise for rational consideration. Later on the question of final purpose dawns upon the youthful mind, and though it can not be logically solved by it, experiences and intuitions have given sufficient assurance that certain things are right until intelligence makes duty and purpose more difinite and distinct. Here, I may observe that the child of the country—of pastoral surroundings—being freer from artificial distraction than the child of a metropolis, is more profoundly imbued with the results of cosmic impressions, and thus later in life is more likely to acquire prophetic insight. Thus the untutored mind of the peasant, as illustrated in the "Cotter's Saturday Night," may evince great wisdom and peace because of living in line with a final purpose in harmony with intuition and *common-sense*.

STATES OF MIND.

Self-possession is the essential characteristic of the normal mind. It is the condition of the greatest freedom of the will and power of attention with which it is commensurate. The power of discernment and the power of choice are at their highest degrees, and are at all times ruled by fundamental prin-

SKELETON No. 1.

SYNOPTIC ANALYSIS OF THE COGNITIVE FACULTIES.

(In the order of their evolution.)

ACQUISITIVE.

(*Perception.*)

Internal Perception.	*External Perception.*
Consciousness of Self through contrast with externals in translation—Perception proper.	Consciousness of externals through their effect on the senses—Sensation.

CONSERVATIVE.

(*Memory.*)

Sub-conscious ideational coherence by the law of Association operating in inverse ratio to the time, space and causal distance between things (ideas). It is the "heart" or storehouse of the intellect.

REPRESENTATIVE.

(*Imagination.*)

Suggestion.	*Recollection.*
The involuntary return of ideas to consciousness through natural or association affinity. (Common to all animals).	The voluntary reproduction of ideas to consciousness according to individual habit or system. (Exclusively human.)

ELABORATIVE.

(*Relational.*)

Analysis.	*Synthesis.*	*Judgment.*	*Reason.*
Separation by affinities or qualities or structural relation.	Conjoining by affinities or qualities or structural relation.	Affirming a similarity or dissimilarity between two things.	The comparison of two things with each other through a third.

Intuition.	*Instinct.*
The sub-conscious action of the mind in a new and conscious relation bearing a concept.	The inherent faculty of lower and undeveloped organizations operating in lieu of reason or experience for conservative ends.

REGULATIVE.

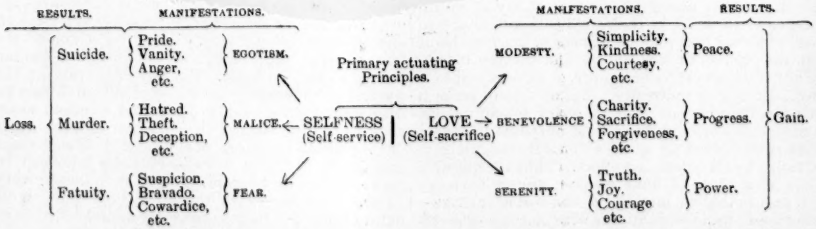
(*Reason and Will.*)

Common sense—a priori or First Principles—the product of necessary or common experience—in action with new relations.

NOTES.—(1) A mental faculty is an inter-dependent mode of activity.
(2) *Active* Attention or the power of voluntary direction and exclusion is a measure of the freedom or power of the Will; the Will is dependent on Reason and Reason on the efficency of the subsidiary faculties.
(3) The mind being ever active is always in a new relation.
(4) Instinct is the first manifestation of mind, Intuition the later and Reason the last or highest.

SKELETON No. 2.

MORAL DISPOSITIONS.



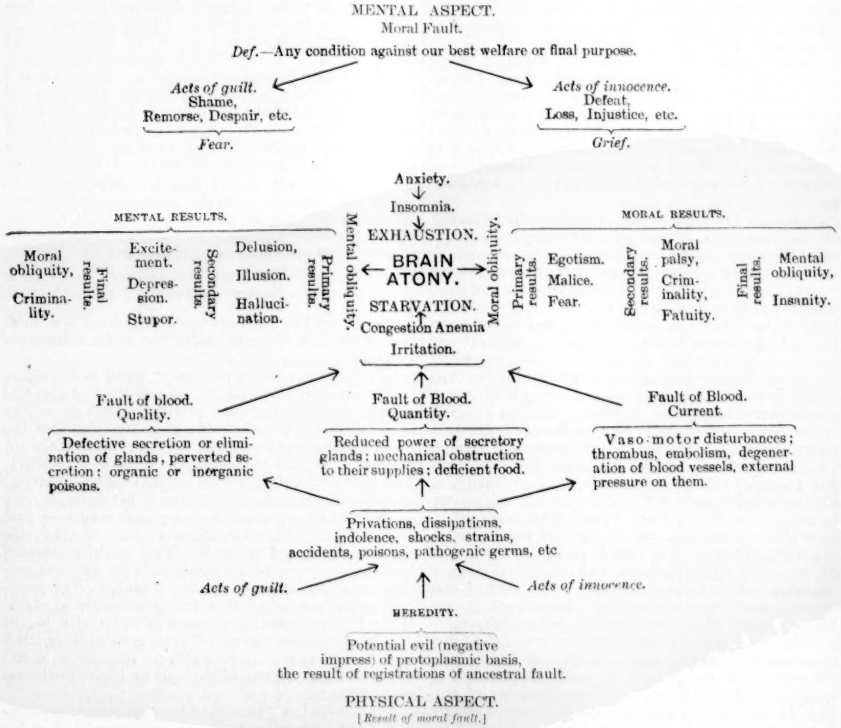
NOTES.—(1) Few, if any, individuals are exclusively the one or the other, but usually vacillate between the two principles owing to weakness. The one may wear the appearance of the other and thus have failure or success accordingly, viewed from the standpoint of fundamental principles.
(2) By *suicide* I mean either a violent or slow process of self-destruction. By *murder* I mean either a violent or slow process of destruction to others. By *fatuity* I mean that state of mind which has such a mixture of both these dispositions that more stupor than impulse results.

SKELETON No. 3.

THE PHILOSOPHY OF DEGENERATION.

OR CAUSATIONAL ANALYSIS OF MIND FAULT.

Premise.—The power of Discernment with the power of Choice implies commensurate personal responsibility, therefore degradation has primarily a *moral* cause and finally a *mental* result, or reduced capacity for enjoyment.



NOTES.—(1) Brain atony is any condition of brain which does not balance with the normal or fixed forces of nature and is relative to individual capacity.
(2) Causes and effects operate in a circle and run parallel to each other.
(3) Insomnia is deficiency of brain *rest* in any degree.

ciples. Full self-possession contains no egotism, malice, or fear, for it is the necessary product of logical living. The great and self-evident fact that the highest good to self is dependent on the attainment of the same by others is an ever-ruling principle of it, with the sense of duty from the dictates of conscience. One of the first great impressions which naturally comes to the human mind is the sense of absolute dependence —the law of gravitation, so to speak, in the psychologic world. Following this, the fact of inherited environment with its many and varied mifortunes, whether of wealth or poverty, gives basis to charity, which when logically exercised, works for harmony and efficiency along all progressive lines. Thus we gather guiding principles which with growing knowledge lead to a fuller recognition of our relationship to time, eternity and an infinite personality, and while we perceive our high dignity in natural economy, we carry the conviction of self-insignificance. Witness the modesty, the magnanimity and the self-sacrifice of true greatness.

But these great and guiding principles which work for harmony and evolution may be stifled in their birth by the inculcation of morbid or false teaching and example, and thus the selfish character develop with egotism, malice and fear as necessary conditions.

A typical case of undiluted selfish character came under my notice in the New York city workhouse. He was a man about 30 years of age, and by occupation a burglar. He had served several times in the penitentiary, but was committed to the workhouse for one year on a minor offense. As prisoners were allowed more liberty during their last month's service, I engaged him to shave me in my room that I might have the opportunity of finding the roots of his

character. He was an unusually nice looking, shapely and clever fellow, facts that seemed incompatible with his history of early and continued crime. After discussing all sorts of questions with him at different times, the fact was revealed that he firmly held the belief there was no future state, and that it was reasonable to get everything *now*, no matter about the rights of others who possessed whatever he wanted. Thus all his niceness was policy.

Egotism as the "I am" what I am actually not, is quite a different thing from the positiveness of decision, the assertion of a truth, or heroic action. It is an exhibition of personal importance with disrespect for others without just cause, and arises from a selfish disposition to be esteemed more than our merit, with a delusional basis. It is very common and conspicuous among the insane and is essentially an abnormal product.

Malice, as the disposition to injure others purely for the sake of inflicting pain or antagonism, or in some cowardly indirect method of "getting even," is quite a different thing from punishment for a wrong, which, though it may be ineffectual, is curative in its tendency. It springs directly from selfishness as an attitude for its own protection along its selected lines, and with no disposition to apologetic considerations.

Fear is the product of uncertainty—a necessary condition of selfishness and comes from the obscurity which necessarily more or less exists in all abnormal states of mind and acts therefrom, whether of guilt or disease. To live in the light of fundamental principles (common sense) is to have such a telescopic view of life that consistent action can bring no fears. Not to so live is to live in shade or obscurity, so that acts must carry with them more or less uncertainty of result and fears arise. The innocent in view of the final result in the light if final purpose can have no fears. The fear of childhood is the fear of imperfect understanding and is as transient as the cause. Fear from guilty acts is the fear of conscious desert of punishment and has referenceto unknown remote results with indefinite persistence.

Grief as the effect of unavoidable or unintentional evils has a disturbing action on the mind because of the element of uncertainty of result or personal responsibility and is therefore a form or degree of anxiety. It is frequently associated with personal misgivings of our own real or fancied delinquincy in relation to the object and is thereby mingled with fear of a harsher nature akin to that of guilt.

Anger like fear works to the disadvantage of the subject and consequently is not a normal state of mind. It is precluded by a clear and full view of the whole situation and its relations, with complete self-possession—conditions depending on a full acting brain. Anger is a *product* of all abnormal dispositions of mind and brain, though not always manifested and while in its nature it is a symptom of imperfection it is the least aberrant of all abnormal dispositions of the mind. It is simply a disturbance of temper or co-ordinate mental action. Complete immunity for it wold imply absolute perfection—a somatic impossibility.

Love is the outflow of the sense or realization of mutual dependence, mutual need of reciprocity. It is therefore the normal product of instinct, intuition and reason and thus it may have many forms according to whether instinct, intuition or reason predominate in serving the cause. Love begotten of intuition is the most intense, that of reason is the most lasting. It is the assurance of harmony and coördination with nature and is the root of all conservation of energy in the line of true advance. It is the sacrifice of present personal gratifications which are in conflict with evolutionary ends.

Sociability.—Man normally has a social disposition which in childhood is general or promiscuous just as talents carry with them a desire for their use. As years incaease this disposition becomes more and more select for specific purpose of mutual advantage and for that purpose systematic exclusiveness is required for the attainment of a particular end, otherwise there would be dissipation of energy. Thus while sociability is normally a product of love it can be claimed only by the fitness of means to an end and therefore an exclusiveness may result manifested as an eccentricity. Difference in habits from the conventional (eccentricity) due to exclusiveness for a rational purpose indicates intensity of character above the common, but otherwise eccentricity is a symptom of degeneration.

BRAIN RELATION.

The theory has been advanced that mind is a function of brain in the same sense that bile is a function of liver.

1. Were this a fact a portion of brain would represent a quantum of mind just as a portion of gland is a measure of its secretory product, which is not the case, for almost the whole of either hemisphere of the brain may be destroyed and yet the mind remain intact though it loses in its power of endurance for work. This fact demonstrates that mind is *supra*-material and is tn no sense the elaboration of brain, but is only *conditioned* by a *product* of its cellular action—a product akin to electric energy, and which makes motor and sensory action possible. This cellular product bears much the same relationship to the nervous system as does electricity to the telegraph. The possibilities of the mind are therefore conditioned by everything that contributes directly or indirectly to the supply of brain energy and the integrity of its specialized centers which are probably as numerous as are the specialized organs of the body or their functional requirements.

2. The fact that the size of the brain and the number of the cortical cells are almost completed in the child, which is not true of any permanent gland, is also a fact against the analogy.

3. That the function of brain, aside from its being the location of communicating centers, is simply the production of an energy subservient to mental activity and organic life is strongly supported by such facts as that the brain of the *monk* monkey is much simpler in its convolutional form than many of the larger quadrumana of inferior intelligence and it is even much simpler than that of so stupid a creature as the sheep. The cerebral convolutions of some monkeys as the *howler* are about as few and simple as a frog's. The clever beaver has a cerebrum devoid of any convolutions whatever, while our congener the hog which seldom has more than one and the same idea in life, is well supplied with convolutions. Thus the evidence is that while convolutional complexity is a matter of economy of space for increasing energy it is not necessarily in proportion to intrinsic intellectual eminence and that mass, proportion and complexity of brain convolutions are a measure of the

power of endurance, of energy production, rather than intellectual eminence.

4. The fact that histologic elements of the cerebral cortex of all vertebrates are much the same and also much the same in all parts of the cortex, is in favor of the energy theory.

5. The fact that excepting (possibly) alcoholic and traumatic insanities, the pathology and morbid anatomy of almost all forms of mental aberration are essentially the same.

6. Lastly but not least of importance as bearing on brain function, is the fact that mind has unlimited growth which no secretion of a gland has not even the energy produced by brain.

There is no such condition as disease of the mind pure and simple, for all mental fault and ideational error imply an abnormal state of the brain inherited or acquired, otherwise *perpetual* chaos would result. For the same reason that matter is indestructible, mind is immortal, and for the reason that precisely the same result can only take place when all the conditions are precisely the same as before, character can not be changed post-mortem, in any way possible ante-mortem.

THE FACULTIES.

By perception, reason and will we commonly include all of mental action. The one can not exist without the other, but they embrace distinctive modes of mental process, as seen in the accompanying analytic table.

The *acquisitive faculty* is the power the mind has of receiving impressions through the peripheral system and translating them into ideas. So keen can this power become that disciplined observers can accurately note hundreds of objects in a room by a glance on passing its door and afterward describe every detail which was within view. In my own experience in early student days, I acquired the faculty of reading a whole line at a glance, or about as quickly as I now ordinarily do a word. That the mind is also constantly receiving impressions which are not consciously perceived at the time is evidenced by somnambulistic feats and the doings of persons pre-occupied. The case of an ordinary female servant who in the delirium of fever repeated whole passages of Greek and Hebrew which had been recited within her hearing years before, and which she neither understood nor gave attention to at the time of hearing them, goes to show that nothing can impinge upon the senses without becoming a mental acquisition, though impressions at the time may pass unrecognized.

The *conservative faculty*, or the power of holding impressions or ideas subconsciously for future use, preserves all experiences and thoughts, classified according to one relationship or another, and therefore made more or less available for use when needed.

The *representative faculty* is commonly known as memory, but is properly the power of the mind to reproduce ideas from memory. It is either voluntary or involuntary, but in man usually both, and in the purely voluntary form is exclusively a human faculty. Voluntary reproduction, strictly speaking, is a process of exclusion in favor of certain lines of association. This faculty habitually exercised can perform wonders compared to the degree in which it commonly exists. Indeed, some persons can instantly recall almost any forgotten experiences. When a lad of 16 years at Edinburgh wading through the ponderous tomes of Turner and Liebig's chemistry, I systematically tested my recollection after four or five hours' consecutive study, covering forty to fifty pages of new matter, and found that at times I could not only recall many of the ideas but also the page and setting containing them in pictorial representation. This faculty improved by practicing the careful retracing of thoughts by sequence. The faculties of perception and recollection show what a mass of mental material exists subconsciously, only to be brought in view when the mind is fully emancipated from somatic conditions. Later on when a student in London, I practiced as an experiment for a number of weeks the habit of daily reviewing my experiences in minute detail, beginning with the last sensation or thought. Between 5 and 6 P.M. I would comfortably recline upon a sofa and close my eyes. At first the task required considerable effort to connect all the perceptions of a day, but I soon acquired the power of reviewing the experiences (subconscious perceptions) of many months within a space of time less than an hour. I found that by *directing* my attention to a given point and then holding it *passively*, ideas would instantly cluster about the central one by the natural law of association—suggestion. I would have a pictorial representation in natural order and seemed to again experience something of the original feelings that accompanied them. The review seemed complete, although some fields of experience required more effort than others to complete them. But the most remarkable revelation was the rapidity with which I sometimes could cover a large territory —many thousands of perceptions—within a few moments. It was mostly by *suggestion* and only partly by *recollection*.

The faculty of *Recollection*, depending as it does upon a conventional system or predetermined line of association of ideas by the individual, is one of the latest evolved and highest faculties of the intellect, so that when degenerative changes of the brain take place, it is one of the first to weaken. For example, a person may be able to speak and write numerals to some extent, because they represent the simplest kind of natural relationship—an evolutionary order or systematic proportion of one quality—while the same person may forget the alphabet, which is an *artificial association of different qualities*.

The *Elaborative faculty* is the power of the mind to relate things according to purpose or plan. Its highest form is *Reason*, which calls in service every mental process. Reason is largely dependent on the faculty of recollection—the faculty of recalling anything *wished* through a system preëstablished by the individual. This enables reason to advance beyond intuition and also produce certainty for surmise. Reason pure and simple is the last and most complex faculty evolved, and as the creature of self-discipline it is the first faculty to weaken in most brain degenerations. This is why fixed delusions usually appear long before the simpler faculties show any marked enfeeblement. I doubt if reason, strictly speaking, is possessed by any other creature than man.

The *regulative faculty* is the presidential power of the intellect, but with no more power of action than is delegated by its constituents, the subsidiary faculties. Its strength of action (the will) depends upon the relative efficiency of all the mental faculties governed by fundamental or first principles discerned

by intuition and reason from necessary or universal experiences and known as *common sense* (not common notions). They are the principles that work for harmony and evolution.

Instinct is the expression of elaborative efforts of organization and parts for conservative ends. There are three principal forms: 1. Cosmical instinct, or the instinct of *first acts*, such as the sucking of the babe, or the pecking of chicks—for the *preservation of the individual*. 2. The instinct of *sexual attraction*—for the *preservation of the species*. 3. The instinct of *preponderating talent* or the desire to exercise an inherited power—to the *advantage of the species* for final purpose (evolutionary end). As a propensity, instinct is the first manifestation of subconscious elaborative action, which is a necessary condition of growth and experience.

Intuition is also a subconscious action of the mind, but bearing a *concept* as a product, instead of a *propensity*. It is a faculty common to all the higher animals and is often mistaken for reason in them. It is the power of the natural or poetic mind as distinguished from the *logical*. If the state of the mind is normal and the related subconscious data are correct, intuition must be accurate when pronounced. Such a condition is only approximately attainable. But our great motive ideas are mostly intuitional, more or less, as few minds can consciously calculate to a conclusion with all the data involved even in everyday problems. Women, who commonly live more *naturally* than men, possess it in a higher degree, and in those who are well informed and conditioned it is more reliable than the exercise of reason in the imperfect form so common.

Attention.—The power of attention is the power of the will and is the first condition required for the appreciation of an object by the perceptive faculties. If it equals the measure of scrutiny and if the measure of scrutiny equals the nature and number of ideas engaged and the order in which we bring them to bear on the object, together with the manner in which the object is exhibited then the impression or notion received of the object will accord with the measure of attention given it. In mental fault the attention is weakened and the subject is more or less passive, as in infancy, so that perception is incomplete. Attention is given more to the *pro* side than the *con* side of the thing presented or the quality suggested and if the favoring circumstances remain undiminished, complete subjection (hypnotism) will result. Arrest of attention is palsy of the will which is subjectivity of the mind.

Emotion is a normal condition, but in its manifestation is inversely proportional to intellectual range. It is the product of suggestion on subconscious factors in the mind in accord with the law of the association of ideas. In normal mind it can be controlled by the power of the will to exclude or substitute ideas as directed. Emotion is most profound in the intellectual but least manifest as there is less physiologic excitement, because of greater self-possession which is equivalent to a higher tone of the nervous system. It is most manifest in those who have a *poetic* habit of mind rather than a *scientific*—systematic or logical, and thus they are more or less subjective to external direction. The subjective state of mind is equivalent to passive attention or the taking cognizance of nothing but evidence of support and thus hypnotism or mesmerism may be induced by an exclusive direction of attention instituted by a second person. Voluntary exclusive direction of attention to a *negative* object will induce auto-hypnotism. Ordinary manifested emotion is largely an expression of confusion and weakness. No one can be hypnotized without assisting and many can not resist. It is this rendering an audience subjective, or gaining passive attention by *direction* or control that is the secret of the orator's success. Emotion (feeling) is largely the product of the actual state of the bodily organs which are more or less influenced by thought. Pain or misery, like hunger, is the expression of a need, and the feeling of well-being is the expression of satisfied claims for physiologic requirements. Perversions of different organs have different effects or suggestions on the mind by their sensory influence. The different mental effects of drugs is thus probably due to their action on one or other of the various vegetative organs by the selective affinities of their different cell elements which each possesses, rather than on any direct action on the brain.

NORMAL DECADENCE.

Dotage or second childhood is commonly regarded as the normal terminal of old age. But as over all other organs the brain is much the least affected by general waste or starvation, it would appear that the mind should retain its powers much beyond those of the bodily frame. As a step toward the solution of the question as to the normal disposition of the mind in advanced age to recur to early experiences I communicated with a number of distinguished persons advanced in years in regard to their personal experiences, and who have most kindly replied to my inquiry. I here present the experiences of two men and two women who, at the date of writing me, were in good health and actively engaged in one way or another.

From Mrs. Elizabeth Cady Stanton, now over 80 years of age, and at present preparing her reminiscences, I glean the fact that her mind is strong and active with a vivid memory. She says: "I love to think over the joys and sorrows of my childhood and girlhood, and to see myself in pictures as I looked then." She thinks "there is an immense advantage in doing this as it makes us more sympathetic with the young, more tender with their trials, and more desirous to make them happy. I would feign save childhood from suffering what I did from restrictions." But her opinion is that "with a vivid, keen memory, all persons must more or less dwell in the past. Those who retain an active interest in the questions and reforms of their day, would, on the other hand, be more occupied with the living present."

Miss Francis Willard, 56 years of age, President of the National W. C. T. U., says: "I have observed for some time past that I was growing inclined to think of that which had been of especial interest to me in my childhood and youth. The same tendency was clearly manifested in my dear mother who was with me until the 88th year of her age, and who retained every faculty until the end. So far as my observation goes, this tendency is strongly marked in all people who are known to me. The more years, the more backward looking over, though they may be profoundly interested in and preoccupied by current affairs."

The Hon. Joseph Medill, editor Chicago Tribune and President of the Chicago Press Club, 73 years of age, says: "I can discover no further change in the

action of my mind than can be accounted for by experience, further study on many topics, and wider observation of men and things. The most marked change is that memory of the more recent occurrences seems weaker, less accurate, especially in dates, names and sequences of events. My mind recurs to youthful events and dwells on pleasurable or painful matters which then took place, the memory being quite vivid and accurate of things which happened in my teens or the first decade thereafter. I believe this is the experience of most elderly persons. My judgment or reasoning powers do not seem to be impaired with advancing years, though I can not think or conclude as rapidly as in past years, but consume more time in arriving at fixed conclusions."

Ex-Governor Oglesby, thrice governor of Illinois, now 72 years of age, writes me: "I can not say that my mind recurs more frequently to early experiences in advancing age than it did formerly in younger years. As a matter of fact, I have always delighted in reflection upon and remembrances of my childhood duys. I suppose this is quite common with all rational beings."

It is thus evident that the normal dispositions of the mind in advanced age are retrospective and contemplative. Early experiences are the more profound and enduring in their influences on life as "the child is father to the man" and they sink to obscurity by the calls of an ever changing environment of necessity and ambition, until, finally, the pinnacle of experience is reached and historic contemplation begins. The acquisitive faculty wanes with the decline of the sensory and motor powers, and things of recent date become less impressive. Thus, the disposition to retrospection is born of the growing retirement from the daily cares of active combat and the punctuation points of early life which lie at the basis of all character, press forward for the consideration of the wisdom that comes with maturity of decadence as a blessing to rising generations. But the process of degeneration as differing from normal decadence must play a part, though ever so slight, for it is not to be presumed that heredity and environment will leave any individual untainted with the effects of their evils. Also, the highest type of the individual through strain of ambition, may forget the inexorable exactions of nature and thus trespass the conservative limits.

It thus would seem that dotage is not a normal or necessary condition of old age, but a product of degeneration as differing from normal or necessary decline, when at last the servile mechanism of the mind fails to furnish the degree of energy requisite for coöperative labor, time and space cease to be factors in the evolution of the individual and the veil of mystery—the occasion of all effort—remains as ever, to solicit the attention of the living and spur the strong to thought and conquest.

SUMMARY—THREE PRINCIPAL POINTS.

1. That mind is a distinct entity in which there is no heredity, otherwise endless chaos would result. Heredity is exclusively protoplasmic.

2. That for the same reason there can be no *disease* of mind pure and simple, but that wrong ideas in action necessarily induce disease of the brain, and as one evil begets another, disease of the brain begets wrong ideas, which may become fixed against reason—insanely delusional.

3. That the normal state of mind is self-possession and peace, which is the result of self-sacrifice for a satisfying final purpose.

103 State Street.

THE TREATMENT OF NASAL CATARRH IN THE LONDON CENTRAL THROAT, NOSE AND EAR HOSPITAL.

BY FAYETTE CLAY EWING, M.D.

Late Senior Clinical Assistant Central Throat, Nose and Ear Hospital and at the London Throat Hospital; Fellow of the British Rhinological, Laryngological and Otological Association, and of the American Medical Association.

ST. LOUIS, MO.

It occurred to the writer that the treatment of the several forms of nasal catarrh pursued in the Central Hospital would prove interesting to many of the readers of the JOURNAL.[1] Five varieties are recognized, viz: Acute, chronic, hypertrophic, chronic atrophic, croupous and caseous. The first of these presents few cases in hospital practice, and the last two are so rare as to be regarded as clinical curiosities.

Acute.—Since patients with this form of rhinitis rarely consult a physician until the acute stage has passed, little is attempted except prophylaxis. This includes abundant open air, exercise under restrictions, and hygienic dress. Light wool next the skin and variable weights of over-garments. Heavy garments indoors are specially cautioned against. No agent is more relied upon for its hardening effect than the morning sponge bath with cold water. This should be taken in a warm room, and supplemented by vigorous rubbing with several towels, the last of which should be a coarse crash. When these rules are observed the most delicate person will suffer no ill effects from the bath. Among drugs the first place is given menthol as a prophylactic, and also a modifying agent when the affection is once set up. Cushman's menthol inhaler is recommended to be carried in the pocket, and used frequently during the day as a hardener of the mucous membrane. Menthol is germicidal, and stimulates the capillaries to contraction, thereby relieving obstruction. Cocain, though accomplishing this result much more rapidly, is never prescribed for the purpose, since it produces, after a few applications, dilatation of the vessels, setting up the trouble it originally palliated, and further, there is always danger of the cocain habit being established. During the second stage a mixture composed of camphor, opium and belladonna, in stimulating doses, is advised to be taken between meals.

℞ Tr. opii . . . . . .
Tr. belladonnæ . . . . . āā gtt. v. 30
Aquæ camphoræ . . . . . ad ℥ i. 30
Misce.

A mixture of menthol and powdered spermaceti, in proportion of 15 grains to the ounce, is frequently used for the same purpose, as a snuff. Quinin is without honor, but Dover's powder is serviceable if the first symptoms of the rhinitis are discernible in the evening.

Chronic Hypertrophic.—The usual symptoms of this disease are nasal obstruction, accompanied by discharge anteriorly and posteriorly. In slight cases where there is very little obstruction a powder is prescribed composed of:

[1] Excepting one, the Central Hospital is the largest institution in the world devoted to diseases of the throat, nose and ear, having over 40,000 visits annually.

R. Potassium chlorat.		
Sodii biborat.		
Sodii bicarb.	āā ℥ss.	15
Sacch. alb.	℥ i.	30

A teaspoonful (level) to be dissolved in half a tumbler of tepid water, and injected along the floor of the nostrils night and morning. After using, the nose must be blown, without holding it. As an accompaniment of this an ointment composed of ol. eucalypti gtt. xx, vaselin ℥i is ordered, a little to be introduced into the nostrils after the wash. This treatment is not considered energetic enough to fulfill the requirements in the severe cases. Here, operative measures are demanded. When the tissues are permanently thickened, the condition is cured in one of three ways, viz., by the application of caustics, the use of the wire snare, hot or cold, or by the galvano-cautery. Of caustics chromic acid has superseded all others. The hypertrophied turbinate is thoroughly cocainized by the introduction into the nostril of a pledget of cotton soaked in a 10 per cent. solution of cocain. This causes complete anesthesia and shrinkage of all intumescent tissue that might otherwise interfere with the application of the probe to the spot diseased. After the cotton is removed the surface is wiped dry through a speculum with a cotton carrier. A flat probe, with the chromic acid fused on one side only, is then introduced and pressed against the selected spot. One side of the probe is kept clean so as to avoid touching the septum. Should this accident occur there is danger that a bridge may be formed between the septum and turbinate, and a probe is passed at intervals until the healing is complete. A few minutes after the application the acid is neutralized by an injection of a saturated solution of bicarbonate of soda and water. The slough is removed, in a few days, with the forceps, and a little of the pulv. potass. chlorat. compound is blown in. Of wire snares, no particular pattern takes precedence, the main object being to have one that will allow the hand to work out of line of the operator's vision. Cases in which the turbinates have undergone a kind of polypoid degeneration in front, or project largely into the naso-pharynx behind, blocking the choanæ, are regarded as desirable for the snare. These posterior hypertrophies often require great dexterity to encircle them with the wire and catch a hold. The method pursued is to pass the wire loop through the anterior nares along the floor, then with finger introduced through the mouth into the post-nasal chamber and by touch get the loop into position. When the galvano-cautery is used it is never heated beyond cherry, else bleeding may occur. The same method described above for cocainizing is followed. Flat or pointed burners are preferred, and the point should be thrust into the thickened tissue several times, according to indications. The same care is exercised to prevent touching the septum that was noted in describing the application of chromic acid. The spokeshave of one of the surgeons (Mr. Carmalt Jones), is not so largely employed as the acid, snare and cautery. The shave is a useful instrument in dextrous hands, but those less experienced find it hard to regulate the amount of tissue that may be taken off, the eye not being invoked.

Chronic Atrophic.—Most patients who apply for treatment in this affection do so because of the disgusting odor which makes them offensive in company. Cleanliness is the basis of all treatment. Crusts are immediately removed, and this is followed by a thorough washing with some antiseptic solution such as Dobell's. The removal of crusts is facilitated by the packing of the nasal passages full of cotton wool, which irritates the lining membrane and produces an abundant flow of secretion, loosening the scabs and enabling them to be removed by the forceps. A coarse spray of Dobell's solution follows, the nose-piece fitting tightly in one nostril, and from hand-ball pressure the stream runs in and comes out of the other nostril. When the crusts are adherent to the posterior parts a bent nozzle is passed through the mouth into the post-nasal chamber, and the spray thrown forward. The patient is then ordered to keep the nose clean by using the spray at home. Sometimes the pulv. potass. chlorat. compound is prescribed instead of Dobell's. An oily spray follows the wash the ones commonly advised being:

R. Menthol.	℥ss.	2
Ol. Olivæ	℥i.	30
Misce.		
Or		
R. Ol. eucalypti	gtt. xx.	1 20
Iodol	grs. v.	30
Vaselin	℥i	30
Misce.		

This treatment is not expected to effect a cure, but is given to render the nose free from odor and keep the patient from being offensive to those with whom he comes in contact. There is another form of treatment of these cases pursued by some of the surgeons connected with this hospital, and believed by them to be absolutely curative. The principle is to create irritation of the mucous membrane sufficient to change the atrophic process. Several plans are followed, but sometimes it is necessary to take the patient into the hospital in order to have the directions carried out. The generally adopted plan is to make the patient, nightly, stuff the nostrils with iodoform wool, after using the spray. One side is packed at a time, the stuffing alternating. He is made to sleep with it in place if possible. Another way is to paint the entire lining membrane, after cleansing, with a 10 per cent. solution of trichloracetic acid, or with diluted tincture of iodin 1 to 7. Still another way is to take a small roll of canthos paper, and after the usual washing, a piece of the paper is cut an inch square, and made into a roll and introduced into the nostril, only one side being treated at a time. This is left in place as long as the patient can stand it, which is about twenty minutes. This treatment, and the ones by painting, are repeated every two weeks, but must be prolonged to accomplish good results, and continual spraying is required to prevent relapse. Constitutional treatment is directed in all forms of catarrh, but is considered secondary to local measures. Since the mental state of all victims of atrophic rhinitis demands stimulation, they are encouraged in every way possible and urged to persevere in their treatment.

Caseous.—This is an obstinate and rare affection in which cheesy and putty-like masses block the choanæ. The caseous accumulation fills up the sphenoidal sinus at times and is generally considered as due to caries of the ethmoid bone, but little is positively known of its pathology. The masses are carefully scraped out, and the sphenoidal and ethmoidal cells curetted, when this can be accomplished. The coarse spray is used persistently, and hygienic

and general constitutional measures prescribed. The disease is regarded as curable if properly and persistently treated.

Croupous.—In its relationship to diphtheritic rhinitis this disease holds a subsidiary position corresponding to that of membranous croup in the larynx. The treatment is rather tedious, since the membrane is very adherent. Alkalin washes are followed by forceps, and an oily spray. Sometimes the nostrils are provided with a lightly carded pledget of menthol wool, 5 to 10 per cent. Tonics and a change of air are often required.

VAGINAL OVARIOTOMY.

BY JOHN MADDEN, M.D.
MILWAUKEE, WIS.

Dr. T. G. Thomas, of New York, performed the first systematic vaginal ovariotomy in February of 1870. Before undertaking the operation he prepared himself by operating eight times upon the cadaver. He placed his patient in the knee-elbow position, secured by the apparatus of Bozeman. He passed a rectal bougie into the bowels for a distance of five inches "to prevent all possibility of the rectum falling into the line of incision," lifted up the perineum and posterior wall with a Sims speculum, seized the fornix vaginæ between the rectum and cervix with a tenaculum, and, with a pair of long-handled scissors, made a longitudinal incision into the cul-de-sac "with one stroke." The tumor was then seized with a tenaculum, three small cysts ruptured and their contents evacuated, whereupon it was easily drawn into the vagina. The patient was now placed in the dorsal decubitus, the pedicle of tumor ligated with a double-silk ligature, cut off and the stump returned to the abdominal cavity. The incision was closed with a single wire suture.

Dr. Robert Battey performed the operation first in 1874, and in 1877 (Trans. Am. Gyn. Soc.)successful cases were reported by Drs. Gilmore, of Mobile, Clifton E. Wing, of Boston, and Goodell, of Philadelphia. In reporting his case Dr. Goodell mentioned a successful vaginal ovariotomy by Dr. R. Davis, of Wilkes-Barre, Pa.

In all of the cases here quoted the operation was done for the removal of an enlarged ovary, and are not examples of Battey's operation, which was introduced at this time. After the introduction of Battey's operation, however, a number of operators removed the ovaries per vaginam; but it is not possible to separate the cases belonging to each class.

In Europe vaginal ovariotomy never received any favorable recognition. Whether Hegar, following in the footsteps of Battey, selected the vaginal route for the performance of any of his cases of castration is not recorded. That he did so, is not likely. Olshausen in 1886 (Krank. des Ovar.), remarked that the operation had "never met with favor in Europe and seems to be quite generally abandoned in America, its fatherland." He quotes Mignon of having collected, up to that time, the literature of 113 cases. These cases, however, include all operations in which the ovaries were removed through the vaginal vault, including those in which destructive inflammatory and suppurative diseases had existed. Since 1887 this mode of operating seems to have been quite completely abandoned; for a careful search through a good deal of gynecologic literature published during the intervening eight or nine years failed to discover the record of a single case,[1] and modern text-books dismiss the subject with a half-dozen lines. The complete abandonment of this method of operating is due more, perhaps, to the development of aseptic methods than to any other cause. Fifteen or twenty years ago an abdominal section was not made without hesitation and any method looking to an avoidance of wounding the abdominal peritoneum was looked upon with favor. At the present time the abdominal section has reached a degree of favor little short of an apotheosis. There can scarcely be any doubt, however, that in many cases the vaginal route is preferable to the abdominal. Certainly the operation is too valuable to be cast side.

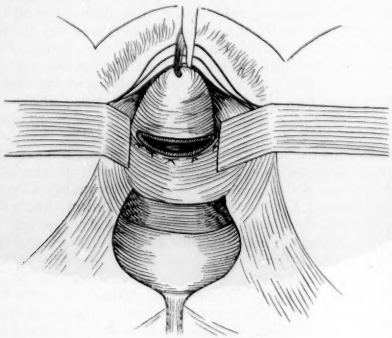
On the 8th of December last I operated through the vagina for the removal of a cystic ovary, and wish to contribute a description of the operation to the scant literature which now exists upon that subject. The patient was 42 years old, of a nervous temperament, poorly nourished, and gave a history of pelvic disturbance extending over a period of fifteen years. An examination disclosed the presence of a tumor occupying the left side of the pelvis, its lowest part reaching about the level of the internal os. There was no evidence of previous salpingitis, nor attachment of the tumor to surrounding parts; for when the patient was placed in the knee-elbow position the tumor escaped from the pelvic cavity entirely. The pelvis was roomy and the uterus freely movable; but the choice of method was influenced not a little by a lack of faith in being able to have strictly aseptic methods observed in the hospital which the patient had selected. After making the usual preparations, the patient was put in the lithotomy position, the vagina again thoroughly washed out, first with a 1:1,000 bichlorid solution, then with sterilized water, and the uterus exposed by means of perineal and vaginal retractors. The lower lip of the uterus was then seized with a pair of strong bullet-forceps, drawn down to the vulva and given to an assistant to hold. In the same hand the assistant held the nozzle of a fountain syringe filled with sterilized water, to which had been added bichlorid of mercury, 1:5,000, and chlorid of sodium, 6:1,000, for continuous irrigation. A transverse incision was now made through the lowest part of the cul-de-sac, close to the uterus. The incision was begun with the scalpel and made large enough, at first, only to allow the insertion of the index finger tip. The bleeding of the afferent uterine vessels was stilled by the introduction of a stitch. The incision was enlarged with a pair of blunt-pointed scissors, a stitch being taken each time to prevent hemorrhage (Fig. 1), before the tissue was cut. The method adopted is almost exactly like that used by Martin for vaginal extirpation of the uterus, whence this illustration is taken.

After making the incision about 2½ inches long, the finger was introduced into the pelvic cavity and the tumor found to be entirely free of adhesions. The tumor was now seized with a pair of volcellum for-

[1] Since this was written my attention has been called to a case reported by Staude, of Hamburg (Monatsschrift für Geburtshülfe und Gynäkologie, Bd. ii, Heft 4). In this case the tumor was not discovered until labor had begun, when it was felt crowding the posterior wall of the vagina forward. Unable to push it up, Staude opened it, allowing the escape of considerable fluid. He then drew the tumor into the vagina and ligated it together with the tube; but the labor pains came on with such strength and rapidity that he was obliged to finish the operation after the child was born. He closed the incision with a catgut suture. The patient made an uninterrupted recovery.

ceps, drawn down, two of the cysts ruptured and their contents evacuated, when the tumor was easily drawn into the vagina. The pedicle was ligated, cut off and returned to the abdominal cavity. The pelvis was thoroughly washed out with sterilized water, the incision was left open, several strips of iodoform gauze were put in for the purpose of absorbing whatever moisture might be left, and the vagina was also filled with the same material. The tumor, after being in alcohol several weeks, now measures $6\frac{1}{2}$ inches in lesser and $9\frac{3}{4}$ in greater circumference. The time occupied in the operation was a little less than thirty minutes, and there was absolutely no shock following it. A profuse uterine hemorrhage, however, occurred on the third day after the operation, and on the fourth day there began septic disturbance, resulting in the formation of a pelvic abscess which apparently began in the pedicle stump, and made the convalescence tedious. The point of infection, however, was easily reached and the abscess thoroughly drained through the vaginal incision.

The employment of the vaginal route for the removal of ovarian tumors certainly has great



INCISION INTO CUL-DE-SAC.

limitations. A large tumor can not be removed in this way, especially if it be solid. Dr. Thomas would limit it to cases in which the tumor was "not larger than the head of a child a year old," but this must necessarily depend upon the peculiarities of each individual case. It is obvious that a simple cyst filled with serum only might be easily removed, while a multilocular cyst containing much semi-solid matter and connective tissue, though comparatively small, could not be removed in this way. Firm adhesions, too, especially between the tumor and the intestines, would make the operation impracticable.

The ovaries are not as easily accessible through the vaginal vault as they are through an abdominal incision, and if the soft parts be rigid and the pelvis narrow, these conditions may make the operation difficult; but if the uterus be freely movable the difficulties are not insurmountable. Furthermore, this method of operating can be abandoned for the abdominal route at any time during its progress, should it be thought for any reason to be impossible to complete; for the vaginal incision does not add to the gravity of the abdominal operation. It may, indeed, serve a useful purpose in permitting perfect drainage. The advantages of the vaginal operation are, first of all, that it is not followed by shock. The short, simple incision, involving only the thin septum between the vaginal vault and floor of the cul-de-sac, produces little or no impression upon the nervous sytem, while the abdominal incision is often followed by profound nervous depression. The operation leaves no sensitive scar and there seems to be no danger of subsequent hernia. Upon this latter point I wish to quote Dr. Leopold Landau, of Berlin. He told me (in October of 1893) that that he had made over 200 vaginal hysterectomies with clamps and that he had never had a prolapsus of the intestines and had never seen the operation followed by a hernia. Furthermore, septic infection is certainly more dangerous where there is a large abdominal wound to become involved; aside from the fact that the abdominal peritoneum is much less tolerant of septic invasion, and much more speedily and frequently terminates in death than when only that of the pelvis is involved; and lastly, the point of infection is easily reached through the vaginal incision if suppuration does take place. Of the recorded cases which I have been able to find, none have terminated fatally. Olshausen (Krank. des Ovar.), in his discussion of this operation, states that Mignon collected from literature 113 cases, with 77 recoveries. As these cases embraced all kinds of conditions, some of profound inflammatory and suppurative disease, they should not be discussed under the head of vaginal ovariotomy. To sum up, the writer believes that in the case of a small, non-adherent tumor of the ovary with a normally mobile uterus, the vaginal route should be selected for its removal.

63 and 64 Sentinel Building, Milwaukee.

THE SANITARY INSPECTION OF FACTORIES.

Read before the New Jersey Sanitary Association at their Twenty-first Annual Meeting held at Atlantic City, N. J., Dec. 6 and 7, 1895.

BY O. W. BRAYMER, A.M., M.D., PH.D.

President of the Camden City Medical Society; Member of the American Medical Association; Fellow of the American Academy of Medicine; Fellow of the Military Order of Surgeons of New Jersey; Member of the District Medical Society of Camden County, the Medical Society of New Jersey, the New Jersey Sanitary Association, Etc.

CAMDEN, N. J.

While a study of the legislative enactments on factory inspection, as found in the labor laws of our States and Territories, teaches us that our legislators and health authorities have not entirely neglected the subject of sanitary inspection (since in a few of our manufacturing States there are laws good so far as they go), yet it is very evident that no great effort has been made to improve the sanitary and hygienic environments of the workingman, and create the best possible conditions for his health and work; conditions which conform to the scientific knowledge of our age. It would appear that nothing had been done beyond what necessity had enforced. No scientific knowledge of sanitation seems to have been promulgated among our factory owners and the working people of our country.

It is true that laws have been enacted regulating the age at which children can be employed in mills of various character, yet from going through these mills and looking at those working therein, we feel doubtful as to whether these laws are being lived up to. It is also true that the working hours of men, women and children have been established by law; also ventilation, water-closets, and accidents from

machinery have been considered, and recently in New York State a very good law has been enforced regulating the sanitation, of bakeries both to promote health and cleanliness among the employes and also to give the public a better and purer article of food. It is also a fact that several of our States have factory inspectors, yet after reading the laws governing the same, and noting the amount of compensation allowed for the work, we are very doubtful whether much good is being accomplished. We can see in all this nothing especially to better the sanitary conditions of the workman, or the public. About all the functions these inspectors have, is to order the rules of the department posted in the factories, and in some few instances, when complaints have been made, they may make an effort to remedy the existing wrong. This is not the kind of law we want; it is not the kind of legislation that protects the workingman and shield him from the diseases of his occupation and frees the masses from the danger of filthy products sent upon the market, or the contaminated air which comes from poorly managed factories.

We have a great problem to solve when taking up a subject of this character, and it is impossible in the short time alotted to me to do more than give you a few scattered ideas in reference to the solution.

Statisties show that one-fourth the deaths in Great Britain occur from pulmonary consumption, the majority of which can be traced to the breathing of dust-laden or impure air. Some foreign countries have taken up this subject in a more rational way than ours. They have made it a national question, and to-day we can point to England, France and Germany as having very good laws, the enforcement of which has done much to benefit the workingman and the public. We also are pleased to know that the medical profession, especially in these three countries, has taken a great interest in the subject of factory sanitation, and some most excellent works, describing the diseases of different occupations, have been published. In looking over the laws of our States, I was impressed with what seemed to be a fact, viz., that notwithstanding considerable had been accomplished concerning the inspection of factories, very little, if anything had been done to establish an inspection and regulation of a true sanitary or hygienic nature. While there are laws bearing on the subject they are only of a general character and do not cover the ground in a way to do much good. For example they take up the subject of guarding against accident by machinery and fire. These are naturally to be guarded against by the mill owner for personal reasons; legislation is not needed, since any such accident would cause more or less loss of time and money to him, and further annoyance might be anticipated from suits for damage, etc.

In the case of injury and disease from unhygienic conditions this will not hold true, because it does not interest the average capitalist to correct these things. In the majority of instances he overlooks them entirely and when disease overtakes his workmen they are allowed to drop out and fresh hands are taken on without any or little thought concerning the cause of the disease or how it might have been prevented.

The details which enter into the regulation of sanitation n a factory, to the average employer, only interest him in so far as they have to do with the amount of salable products put on the market from his place of business. Sanitary science may have little to do with this, but may have everything to do with the health of the workmen. The capitalist's motto reads, "The maximum gain for the minimum expenditure." The life of the workingman is of little importance in his sight. In looking over the last census report of the United States, we find that over five millions of our population, ten years of age and over, are employed in factories; of these about 80 per cent. are males and the balance females. A vast army of citizens who go to make this country stand high in the list of nations as a manufacturing people! Yet very little has been done to furnish protection, by sanitary regulations; little care has been taken to guard these millions from their unseen yet deadly foes, the bacilli of disease, that are cutting them down with a greater force than would the missiles of a battlefield in times of war. Can we, as sanitarians, be idle and see this havoc go on? Should we not take hold of this subject and with one mighty, united effort strive to protect this hard working host of humanity? We must remember that these millions of beings do not only represent themselves, but they are an illustration, a reflection of future populations; and they determine what the health and status in society shall be of subsequent generations; their children and their children's children.

That unsanitary and unhealthy occupations do cause degenerations in whole communities and produce a stunted and poorly developed people both mentally and physically is no visionary thought. It has been proven by many investigators and as an example let us cite the English manufacturing district, where competent authority states that of 2,000 children, who were working in the mills, only 341 were well developed, and scarcely sixteen of the whole lot could be called handsome, and these latter were most every one of them not natives of the colony but girls imported from Ireland. What would the progeny of such a population be? Certainly no better mentally or physically. These unsanitary conditions in factories and among factory people not only cause a lessening of health and intellect but also lessen the amount and quality of goods produced; and in large manufacturing districts, this would be even more marked than it is, were it not for the fact that new material is being constantly taken in, from the country and neighboring locations, which raises the percentage of health and consequently lowers the rate of defect.

In all the factories visited by me some attempt seems to have been made to favor sanitation, yet it lacked that system which follows wisely enacted and righteously enforced law. It wants more science at the fountain head to give life to the stream. Especially is this true, with reference to water closets, ventilations, cleansing of floors and walls, drinking water and the personal hygiene of the workers. Improvements in machinery and method of manufacturing have done much to benefit the workman. Electric lighting has caused a great sanitary gain; not only because it gives better illumination, but also because it lessens the danger from fire and explosion, and the atmosphere is not impregnated with the products of combustion and it also reduces that oppressive heat which originally was one of the results of illumination by means of oil or gas.

We all realize that it is very important that ventilation be looked after and in no factory should there

be less than 250 cubic feet of air space for each individual workman; yet so far as I know, only two of our states have such a clause in their factory laws. Then it must be considered that with all the ventilation known to science, there are many kinds of industries where a certain amount of danger from dust still exists as in flour and rag mills, pottery polishing and china scouring factories, etc. In all such factories employees ought to be compelled by law to wear respirators and at the same time every effort should be made to devise means to carry off the dust.

Then again, this sanitary inspection has not only to do with the people employed in the mill, but, as inferred before, the surrounding population; the inhabitants living near the place of manufacturing should be protected. Places where old fats and hides are being utilized, and chemical works are continually annoying certain of our committees by various forms of offensive odors more or less deleterious, coming from their midst, should be compelled to regulate the amount of stench thrown off into the air. The steps which England has taken, and the results, have proven that many of the causes of air pollution can be removed.

But when such legislation is obtained, unless there is a proper head to enforce the law it is of little or no avail. It must not be inferred that sanitary inspection would tend to restrict the manufacture of chemicals and like substances. Good laws would only set a limit to the amount of obnoxious gas to be discharged into the atmosphere, and in England it has been proven that the enforcement of the alkali act has not only benefited the workingman and those living in the neighborhood, but it has caused improved methods of manufacturing to be invented and materials to be saved. We must have the aid of the powerful hand of the law if we hope to accomplish anything in this line. One of the first laws of nature is self preservation and Blackstone says "no human laws are of any validity if contrary to the laws of nature." We contend that it is in accordance with nature's law to create and enforce sanitary legislation. Our fellow men and ourselves must be protected.

Many are the instances of filthy customs allowed in factories which need our attention. As an example let us cite the moistening of cigar ends and wrappers with saliva—a detestable habit which should be prohibited. Again, tenement house or sweat shop clothing must be closely guarded and the employees and work rooms kept clean, and all goods coming from such factories should be labeled so that the dealer and consumer might protect themselves. That bakeries be kept clean is of the highest importance since we believe that in this occupation there is a great danger of becoming diseased. The very thought of filth and carelessness allowed in some of our bake shops is enough to create disease. Strict legislation should be enforced to compel this class of workers to be clean both in person and in their work.

Capital secures legislation to protect its interests regardless of the conditions of the workmen employed, while at the same time very often the only capital possessed by the workingman is his health and strength. Certainly the State owes the employees as much protection as the employers. Desire for increased wealth on the part of the owner of factories often causes a reduction of the working force, and an attempt to reduce breathing space may be made, to curtail the extra expense of building. In some instances the workers remaining will not complain if their wages are not reduced. They may be ignorant of the danger that lurks about them, they may not understand nature's laws, which condemn in no mild words over exertion and poorly ventilated rooms; yet their health is at stake and it is for this reason that sanitary science should interfere and save these beings from an untimely death. If you take the time to look up the statistics on this subject you will find that there is a very great increase of lung disease among those people who work in factories, nearly or quite 100 per cent. more than among those working in agricultural districts. Observation shows that mineral and metallic dusts are the most dangerous and one reason why the evil effects of breathing dust-laden air is not more apparent to workmen is because they are slow in action. Yet the effect is in the end deadly. The inhalation of dusts, mineral, metallic and organic not only cause fatal lung disease, but offensive and poisonous gases, sudden changes from hot to cold or vice versa, will cause disease, and often death. Such diseases, if not fatal, rob a man of health and strength and thereby lessen his chances of self-support; and since they are in the majority of instances avoidable, it seem criminals for our authorities to allow them to go on without a greater effort for their prevention. It is not only the individual but the community and state that loses in allowing such evils to exist.

These subjects require the careful attention of our legislators and health authorities and every possible effort should be put forth to bring about the needed change. Naturally the question arises: How can this be accomplished? Let me answer: Educate the masses; teach sanitary science to the child and when he becomes a man he will put his knowledge to good use. When the public becomes more enlightened concerning sanitary science; when our school authorities are awakened to the fact that hygiene and sanitation, both of the individual and the community, are among the most important foundations of learning that can be instilled into the youthful mind; and when they learn that it is for the interest of every one that these subjects be taught in our public schools and colleges, and that this instruction be given not by one who has little or no idea of the science, but by competent medical men, appointed by each school commission, then will a demand for better sanitation in factories be exacted.

To know how to read, write and cipher is not enough for that child who has to leave school at 12 years of age and go forth to earn its living. He should also have a fair knowledge of self-preservation, as unfolded by sanitary law, physiology and hygiene. Our people are filled with a false modesty from which they must be purged. Every child, both male and female, should at the age of puberty be taught the important laws of life and procreation and be shown how to escape the ills which befall those who live unclean lives and be guarded against the sins of immorality. The time is coming when laborers will strike for hygienic surroundings as well as for money. They will learn that "health means wealth" and act accordingly. We, as sanitarians, must look deep into this subject of sanitary legislation. No matter what elaborate laws may exist on the statute books, unless there is a well-organized system for their enforcement, by a carefully chosen board of sanitary inspectors; men selected for their

ability as sanitarians, not for political prestige; men versed in medicine and sanitary science, not politicians, principally interested in drawing their salary; unless these particulars are looked after, we say our purpose for a betterment of the workmen in our factories will not be accomplished. These laws must be broader and take in a greater scope than any ever enacted in this country heretofore.

It is not sufficient that machinery be so guarded that injury will be prevented; it is not enough that fire escapes be provided and water closets and good drainage be established. All these things are essential for the welfare of the workers in the factory, yet thousands of other subjects are crying for our attention. These urinals and closets must be well lighted, ventilated and disinfected. This disinfection should be done daily after the room has been thoroughly scrubbed. These closets should be arranged separately and in different parts of the building for the two sexes. Investigation has shown that notwithstanding these matters are looked after in a measure in most factories, yet this attempt is only a poor excuse for doing an important work. The stench emanating from most of these places leads us to believe that no powerful hand directed by a sanitary mind is superintending the cleansing and disinfection of these places. Instead of a factory inspector with power to employ deputies, as the law provides now in different States, we want a sanitary inspector, a thoroughly educated and competent man, who will have a deputy in every district, who will look into the workings of the factories; have a keen insight and observe the wrong, and will enforce the law.

Not only the mill itself and the owner should be kept on the right track, but the habits of life of the workingmen must be looked into, and where disease is being contracted because of ignorance, the people should be brought to light. Among the important necessities of every factory is a good, pure supply of drinking water, and each employee should own and be compelled to use a drinking vessel. The miscellaneous use of a common drinking cup is often the cause of the spread of disease, not only in factories but in our schools and places of public assembly. The fact that our churches are adopting individual communion cups has been a great step in promoting sanitation. It shows that our people are interesting themselves in the right direction. There should be wash rooms in every factory, so that employees could change or adjust their clothing and wash their hands and faces. Indeed where the work is very dirty, not only should a place be set aside where those who are compelled to carry their dinner could eat with comfort, but baths should be provided, so that the body could be cleansed before going home. Seats should be provided so that especially females could sit down when not actively engaged.

When one goes into a factory, as we have done not long since, and observes the tobacco juice and corruption being expectorated on the floors, and then notes the poor ventilation, he will be even more impressed, as I was, with the fact that cuspidors should be provided, filled with some antiseptic fluid, and a rigid rule enforced, compelling the same to be used. These receptacles should be cleansed daily. Such a procedure would prevent the spread of many diseases, the germs of which are contained in this filthy sputa, and are carried in the air when dried. Our legislators should feel that without reference to profit or loss, the first thing in every factory should be, to see that as great a chance as possible be given the employe to maintain his health. It may be claimed that it is not practicable for our government to take hold of this subject. Such a protest would appear *feeble*. Other countries have enacted good laws and have kept them in force. Our own government looks after its different departments and protects her citizens from wrong in every land of the earth. Why not some such attention to the health of the people. When we look at the increased death rate from lung and other preventable diseases arising from badly regulated factories we think of that line which runs:

"Hark, from the tomb a doleful sound, mine ears attend the cry."

Thousands, yes, tens of thousands of our fellow citizens are yearly going down to untimely graves simply because our factories are not properly looked after by sanitarians. Let us apply the remedy and prevent this premature decay. Educate the people; begin in the public schools and in a few generations we shall have a population of sanitarians, create a Department of Public Health, and let its power and influence be felt in every city and hamlet of this broad land. Elect men to office, both National and State, who understand the principles of sanitary science. Then with a public backing them that demand such laws, they will be able to see the necessity and will have the courage to enforce sanitary legislation.

THE RELATION OF ADENOID VEGETATIONS TO IRREGULARITIES OF THE TEETH AND ASSOCIATE PARTS.

Read in the Section on Dental and Oral Surgery, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY GEO. F. EAMES, M.D.

BOSTON, MASS.

Your attention is invited to a few preliminary statements as indicating my position in relation to the subject of which I am to speak.

1. While mouth-breathing is usually attendant upon adenoid growths, this is not *always* the case, while, on the other hand, mouth-breathing may exist without the presence of adenoids, or it may be due to to a chronic hypertrophy of the turbinated bodies, or some septal deformity.

2. The adenoid growth rarely fills the pharyngeal space so as to obstruct breathing, but mouth-breathing results from irritation which it produces.

3. Mouth-breathing does not produce adenoid vegetations.

4. Mouth-breathing does not cause irregularities of the teeth.

5. I have examined many cases presenting deformed arches and irregular teeth, in which no adenoids existed.

It is argued by G. MacDonald, that nasal stenosis is a constant factor in post-nasal growths, and that this being the case, "as long as respiration is conducted through the nose, there is, of a physical necessity, a dimunition in the barometric pressure behind the seat of stenosis. This inevitably results in more or less overfilling of the blood-vessels which, in its turn, leads to hypernutrition and hypertrophy." It is obvious, that when the diaphragm is depressed, the mouth closed, and the nose partially closed, there is more or less suction produced which would invite

blood in extra amounts to the pharyngeal region, but according to my observations, patients breathe through the mouth, both by instinct and force of habit, even when it is possible to breathe through the nose. The swollen turbinates, with their rich supply of nerves, readily convey a sense of suffocation to the brain, and the mouth is immediately opened. I have repeatedly found children breathing through the mouth, and upon request to breathe through the nose, they have been able to do so, but as soon as their attention was drawn in another direction, the mouth opened and mouth-breathing was continued. Moreover, the mouth opens so readily, upon so little provocation from the nasal irritation and stenosis, that it does not seem possible that sufficient "diminution of the barometric pressure" can be produced in the pharyngeal vault to cause a growth of tissue. Again, if this be true, we ask why the growths are so often pedunculated, while the pressure is exerted equally in all directions. This view also necessitates nasal stenosis to begin with, but it is generally understood that the enlarged turbinates are the result, not the cause of adenoids, and observation shows that the nasal obstruction gradually disappears after the removal of the growth. Again, this will not account for the congenital growths, and those in infants whose oral respiration has only been established a few weeks or months; and still again, those cases of nasal stenosis of long standing in which there is no adenoid hypertrophy. If it is true that this "diminution of barometric pressure" acts also to increase the size of the faucial tonsils, how shall we account for many cases of post-nasal adenoids, in which the faucial tonsils are normal? Their growth and development is acknowledged to be on the same principle, they have physiologic limitations in common, and it would seem reasonable to assign a cause common to both. It has been said that adenoid growths in the pharyngeal vault cause irregularities of the teeth. I do not believe this to be the case, but rather that the dental irregularities are only another expression of the same cause that operates to produce the adenoid growth; in other words, there is one cause common to both, yet this cause may not be able in all cases to produce both. The bone developing vital movement may be strong and active by inheritance, while the lymphatic glandular system is weak. Deformities of the hard palate, forming the dental arch, are frequently associated with adenoid growths, but not always, as many would give us to understand. There are various reasons given concerning the origin of these irregularities. For instance, it is said that a so-called high arch, or V-shaped arch is a diagnostic sign of adenoids in the pharyngeal vault. The late Dr. F. H. Hooper in his pamphlet on "Mechanical Effects of Adenoid Vegetations" says, "The hard palate, from the constant atmospheric pressure within the mouth, is pushed upward." It is difficult to see how there can be a constant pressure within the mouth while it is open and the air is free to move either in or out. The air must be confined in a given space, and a force exerted, in order that pressure in any direction be made. Therefore we can not believe that this deformity of the arch is due to atmospheric pressure caused by nasal stenosis.

The theory of David accounts for the deformity of the hard palate in persons suffering from nasal stenosis, by a partial vacuum produced in the nasal cavities and upper pharynx by the act of swallowing. The atmospheric pressure remaining the same in the mouth, its roof is pushed upward. It is difficult also to reconcile this theory with the writer's view of the case. In the first place, it must be a rare case in which the nasal stenosis is so perfect that a partial vacuum should be produced behind it. It is well known that in the act of swallowing, the tongue presses forcibly against the roof of the mouth from before backward, the soft palate is slightly raised, as the bolus of the food passes it, the posterior pillars of the soft palate then contract on either side of the uvula, forming a nearly perfect valve which, with the application of the posterior wall of the pharynx to the superior surface of the soft palate, forms a successful barrier, protecting the posterior nares. The necessity of this, as well as proof of this function, is shown in cases of paralysis of the soft palate, in which liquids swallowed regurgitate into the nose. Now, the act of swallowing is momentary, and the muscles contract firmly, and it does not seem possible for this temporary diaphragm to be so pulled downward as to cause partial vacuum in the nasal cavities; moreover, immediately after swallowing there is a reaction, the breath being held during deglutition, it is expelled with some force through the nose, or into the nasal cavities, the mouth being closed in the act of swallowing. If the air does not find exit through the nose, the mouth does not open until after considerable pressure has been exerted in the upper pharynx and the nose. This may be demonstrated by occluding the nose with the thumb and finger, and performing the act of deglutition. Again, if deformities of the hard palate are caused by the withdrawal of atmospheric pressure on one side, and maintaining it on the other, it would seem that as the pressure bears on all parts equally, the palatine arch should be pressed upward equally high in all directions. This is not the case always, for example, model 1, shows the case of Mr. C. aged about 39 years, with a large adenoid growth in the pharyngeal vault, but one side of the hard palate is much higher than the other side.

It is said that mouth breathing necessitates a constant dropping of the lower jaw which, in so doing, causes pressure of the masseter and other muscles upon the buccal surfaces of the upper teeth and consequent flattening of the lateral alveolar arches, and the projecting forward of the cuspids and incisors. I can not believe that the dropping of the lower jaw produces pressure on the teeth in the superior maxilla. The lower jaw is approximated to the upper teeth principally by the masseter, temporal, and internal pterygoid muscles, and when the jaw drops by the relaxation of these muscles, and with it other muscles and tissues of the face, unless the mouth be open to the fullest extent by the action of the platysma myoides, digastric and other muscles, the tissues of the cheek are not put upon the stretch; in fact the finger can be easily passed in between the teeth and jaw without being sensible of any pressure upon it, provided the mouth is not opened widely; moreover it seems reasonable to conclude that the jaw is held suspended, not by the cheeks, but by the masseter and accessory muscles. The cheeks cover the jaws and teeth loosely, with tissue to spare, and will, as a rule, admit of the jaws being opened to a considerable extent without separating the lips, or stretching the cheeks, which is the case during sleep; therefore when the lower jaw relaxes sufficiently to let the air in

through the mouth, it can not put the tissues of the cheeks on the stretch, or draw them tightly against the teeth. Both observation and experiment will show that it is only nccessary to open the lips slightly, in order to allow sufficient air to pass in by the mouth, and that all the tissues concerned are in a relaxed condition while the mouth-breathing is going on. In order to demonstrate this, I have made a number of experiments to determine the pressure of tissues and muscles against the teeth. The device which I have found most successful, is one which I take pleasure in passing around for your inspection. The instrument will explain itself. At first I intended for the little pointer to make a tracing, but I find that unnecessary, for the pointer may be observed while the mouth is being opened. The use of this apparatus confirms my views as above expressed. Moreover, the anatomy of the parts involved bear the same testimony upon careful observation and study. Notice the fact that a straight line drawn from point of origin to insertion of these muscles, would not touch the teeth. A profile view shows the fact that the masseter extends no farther forward than the second molar, while the other muscles concerned do not come as far forward as this. It has been suggested privately by several prominent gentlemen here present, that this demonstration was unnecessary, that it is absurd to suppose that the pressure of the cheek causes a narrow arch, but the others have differed from me publicly, and I then made a vow that I would make a demonstration upon which my opinion would either stand or fall, and I think I have now done it, and that my opinions as expressed, have been substantiated.

Bazin is quoted as advancing the idea that the weight of the tongue in the roof of the mouth would tend to expand the lower jaw beyond its normal limits. I would suggest, however, that if weight is the expanding force, how can it press laterally, since gravity would carry the tongue downward into the floor of the mouth, which would rather draw the sides of the jaw together than otherwise. But if it be the muscular force of the tongue, then it is easier to see how the teeth might be pushed outward. But here is a case, Model 2, Mrs. H., aged 30, with a history of mouth-breathing from infancy, with a marked contraction of the lower jaw, the bicuspids closing entirely inside their would-be antagonists. The nasal breathing is fairly free at the time, yet mouth-breathing is continued, partly from habit, and partly from a mild chronic, nasal catarrh. There are no adenoid growths or enlarged tonsils; there may have been in early life, but the one thing to be noted is, the habitual mouth-breathing did not expand the lower teeth in this case. Dr. Henri Chatellier, of Paris, calls attention to the bones of the head and face, consequent upon obstructed nasal respiration. He points out that the air cavities, as the frontal, sphenoidal, ethmoidal and maxillary sinuses being normally in communication with the air, cease to develop when the circulation of air through the nose is interfered with, and hence dimensions of the face are altered. The only article on this subject, written by a practicing dentist, which in any sensible degree reaches the truth and demonstrates it, is by Dr. E. S. Talbot, of Chicago. I believe the ideas which he thus expresses, to be based upon a correct principle. Dr. Talbot says: "There are many cases of contracted arches where mouth-breathing does not exist, there are also many cases of normal arches where it is present." I have cases, seen by a number of competent witnesses, to show that the above statement is entirely correct.

I now wish to present two cases, both having marked adenoid growths and consequent nasal stenosis and mouth-breathing, but the dental arches present a striking contrast; models 3 and 4. Model 3 represents J. H., aged 13 years, upon whom I operated Nov. 4, 1893, removing a large quantity of adenoid tissue. In this case there was defective speech, the usual dullness and deafness. After the operation, the first improvement was shown in the hearing in two weeks, the speech was slightly better in four weeks, and the nasal stenosis is decidedly lessened. The marked feature in this case is the broad and regular dental arch. The other case, E. F., model 4, aged 9 years, was operated upon a week later. The symptoms were about the same as in the case just described with the exception that there was very little deafness. Compare the dental arch with No. 3, narrow and deformed arch.

Marked adenoid growths are sure to produce mouth-breathing and more or less nasal stenosis, but irregularities of the teeth, and deformities of the arch are not at all certain to follow as a consequence, but are rather companions, due to a common cause. Dr. Talbot further says that in most cases, the cause of these deformities is an arrest of development of the bones of the nose, and this produces mouth-breathing. While there may be an arrest of development of the bones of the nose, I would call attention to the fact that the opposite condition exists as to the turbinated bodies, which are hypertrophied.

As long ago as 1879 there appeared a paper in the *Philadelphia Medical Times*, by Prof. Harrison Allen, in which he says: "Inasmuch as the face is the result of the lateral visceral half arches joining the median structures, projected from the front of the brain-case, it follows that if there is want of harmony between the two genetic movements, errors of symmetry will readily occur." Explanation may thus be given of assymmetry of the nasal chambers, the external nose, the two halves of either of the dental arches, entirely apart from the acquired defects in the same localities. Applying this hypothesis to practice, Dr. Allen had recognized a well-defined group of cases in which the nasal chambers remained, from birth, partially or entirely occluded. Also that cases of obstinate nasal catarrh in children from 7 to 18 years of age, in whom the upper permanent incisors were overlapping and convergent, the two halves of the upper dental arch more or less V-shaped, the tonsils tumid, the roof of the mouth with a high narrow vault, the cause was deep lying and congenital, and affected all the structures of the face. Dr. Allen has frequently noted the way in which the dental arch was narrowed and elevated in adults, in whom no history of either adenoid disease or nasal obstruction was given. It should be noticed also that the upper incisors approach the vertical position, sometimes overlapping, in many cases of adenoid disease, while in thumb-suckers these teeth protrude from the mouth.

In a clinical lecture delivered before the First District Dental Society of New York, Dr. Allen describes a case which is instructive, showing the possibility of the Hutchinsonian, or an allied deformation of the teeth, occurring without a history of syphilis or scar-

latina, that oral respiration was established as early as the fifth year, due to a large adenoid growth, that the teeth were congenitally deformed, that this congenital deformation could hardly be caused by oral respiration established at the fifth year. The following is a description and remarks concerning the above case as given by Dr. Allen:

"A lad in his tenth year lately came under my observation for difficulty arising from oral respiration. He was the son of respectable parents. The father denied the taint of syphilis, and did not exhibit, upon examination, any sign of the disease. The child's mother died of phthisis a short time after his birth, and he had been brought up most carefully and intelligently by a nurse who is acquainted with his clinical history from the time he was born. The child has always been delicate, especially in the functions of digestion and assimilation of food, but there was entire absence of the ordinary signs of syphilis. There was no deformation on the top of the head (which has been described as natiform). There were no fissures in the skin at the nostril or at the angles of the mouth, no cloudiness of the cornea, no traces of previous eruption of the skin, nor evidence of periosteal disease. At the fifth year it was observed that oral respiration became established and there was also a disposition to take cold easily. Examination of the pharynx revealed the presence of a large adenoid growth pendant from the roof. The palatal arch was high and narrow, the obstruction to nasal respiration was absolute. The nasal septum was irregular, apparently due to enormous thickenings of the maxillary crests. The teeth presented all the characters of the Hutchinsonian deformity, excepting only that the lateral incisor teeth were not pegged. After the removal of the adenoid growth, nasal respiration was reëstablished. Now what, in all probability, has been the order of events in this case? The clinical condition which brought the child under my care was not announced until the fifth year. Evidently this was not the first factor. So far as the shapes of the teeth are concerned, they must have arisen at a period certainly not later than at the time when the enamel organs and the dentine bodies were being adapted one to the other. In a word the shapes of the teeth as seen at the tenth year, were congenitally deformed.

"In the next place, the maxilla, especially in the alveolar region, must have been changed by the presence of these mal-formed teeth. It is scarcely likely that the establishment of oral respiration at a period so late as the fifth year should cause an elevation and narrowing of the palatal arch and hyperostosis of the maxillary crests. If this position be accepted, a narrowed, high, palatal arch, with thickening alveolar processes, would be just as apt to arise because of prenatal forces (the same which caused the deformation of the teeth) as to be created by the establishment of oral respiration."

We have leaned too much toward the faulty function last named, in attempting to explain this deformation, and not enough, at least in my judgment, to causes which are in operation at the time the teeth are being developed in the maxilla.

Gentlemen, the evidence is all in. I only wish to call your attention to other models which I pass around; they are all cases in which large adenoids were present. You will notice that a number of these casts show a fairly well-formed arch. I may say, also, that I have operated upon many other cases, removing a large quantity of adenoid tissue, in which the arches were well-formed. I make this statement to show what has not been shown before, to my knowledge, namely, that a large number of adenoid cases present well-formed dental arches.

ECTOPIC GESTATION—REPORT OF A CASE.

Read before the Champaign County Medical Society, Sept. 18, 1895.

BY JOHN LAUGHLIN, M.D.

RANTOUL, ILL.

My reasons for reporting this case are because of many extraordinary conditions that maintained in its ten months' history and the remarkable recovery, the completeness of which was demonstrated by an operation for a complication.

Mrs. E. N., aged 36, the mother of four children, the youngest 4 years of age; no miscarriages. Her menstruation began in her sixteenth year. The flow was abundant and it came about every three weeks. Twelve years ago the menstruation disappeared for four months. A tumor came in the right lumbar region and it was aspirated of a large amount of offensive material by Dr. McClure, now deceased.

Her health continued fair until the fall of 1893. She said her menstrual periods were a little more prolonged and painful than common and a physician was consulted. In November, while going to church, she had a sudden attack of abdominal pain accompanied by weakness. After stopping at a relative's house for a few hours she returned home and afterward suffered from painful and irregular menstruation as before. I first saw the patient June 28, 1894. She complained of pelvic pain and menorrhagia. Urination was painful and frequent. The pulse and temperature were normal. The abdomen was tympanitic. There was a badly lacerated perineum and a bilateral laceration of the cervix. The uterus was enlarged, retroverted, fixed and, with the surrounding organs, so exquisitely tender as to prohibit a thorough examination. My diagnosis was endometritis with pelvic peritonitis. After a few days' treatment these symptoms subsided, and I did not see the case again until July 15.

The same conditions were present except that menstruation had ceased, and it did not reappear until near the end of her sickness. There was also retention of urine, and from that time till convalescence it was drawn with a catheter two or more times a day. Urinary analysis showed nothing abnormal. August 4, the amount of urine began to diminish, and for four weeks not more than from one to six ounces was passed a day. Some days there was complete suppression. A painful fluctuating tumor came in the right lumbar region, gradually increasing to four or five inches in diameter.

My colleague, Dr. J. C. Harmon, and Dr. S. M. Wylie, of Paxton, Ill., were called in consultation. Our united opinion was that we had a hydronephrosis due to occlusion of the ureter either by calculi or by pressure of a tumor. And since the patient said that certain small hard objects had been passed with the urine, we thought probably the former was the true cause.

Through the month of September the history continued as follows: On the first there passed from the bowel a pint or more of liquid containing blood, mucus, pus and portions of the mucous membrane of

the bowel. On the afternoon of the third a messenger reported her suffering great pain and very weak. A catheter was passed and two pints of urine drawn, and in four hours a total of five pints. It contained considerable pus and blood and was very offensive. The tumor was very much reduced in size. The diagnosis of hydronephrosis was confirmed, but the cause was yet in the dark. Two hard grayish masses the size of peas were assisted out of the urethra on the eleventh. They had the appearance of phosphatic calculi and were so considered at the time. No more were passed until some time in October, and then without the covering of urinary sediments that were on the first ones. They looked like the ends of the long bones of a stewed chicken. Then they followed in large numbers, each separate one following the same painful course from the region of the kidney to the bladder just as is usual in the passage of urinary calculi.

Dr. Wylie was again called in consultation October 31. The questions for us to decide were whether the case was one of dermoid cyst or ectopic gestation, and whether or not an operation was advisable. The history of the case, the absence of hair, teeth and nails and the great number of bones excluded the probability of a dermoid.

To do an abdominal section with the urine almost completely suppressed, with very little vitality left in the patient and with symptoms indicating an opening into the ureter and possibly into the bowel, seemed to offer no chance of recovery. Besides, a careful examination revealing no considerable tumor, we hoped a spontaneous recovery might soon take place.

Through the month of November each day's report was about the same. There was intense pain for several hours before each bone would drop into the bladder. Sometimes two or more would seem to be passing at one time. The patient could locate each one and pretty accurately predict when it would reach the bladder. The urine, always small in amount and often entirely suppressed, was taken with the catheter. As soon as the bones engaged in the urethra they were carefully fished out with the tissue forceps. On the twenty-eighth the abdomen became tympanitic and sensitive to touch, with pain particularly on the left side. The next day in several copious evacuations of the bowels there was passed liquid, blood, mucus and pieces of mucous membrane of the bowel.

The first three days of December showed marked amelioration of all symptoms. No bones were passed. Pain and tympanites decreased and the patient rested well. From the fourth to the eighth, pelvic pain and tympanites again increased, accompanied by nausea, vomiting and a slight rise in temperature. These symptoms again subsided and the remainder of the month was comparatively easy. No bones were passed. Symptoms of hypostatic congestion of the lungs that had threatened her for a month improved greatly. She slept fairly well and gained perceptibly in flesh and strength. The last three days of December and the first three days of January she passed her urine unassisted—the only time during her entire sickness.

But these hopeful signs were soon dispelled. January 4 two bones were passed accompanied by great pain. Retention of urine was followed by complete suppression; tympanites and pain increased; the cough returned; nausea and vomiting were more or less constant. Dyspnea became so marked that death was daily expected. These symptoms continued practically the same during the entire month.

February was an easier month for my patient. On the first day I dilated the urethra expecting to find some large pieces of bone in the bladder. But in this I was disappointed, finding only a few small particles. Except being small and the walls thickened the bladder was normal. After this the bones came faster and easier. The urine was drawn with the catheter and in very small amounts. The most marked feature was obstinate constipation, the bowels moving only five times in the month, viz., the seventh, thirteenth, fifteenth, nineteenth, and twenty-eighth.

In March the bones came thicker and faster, the urethra being packed with four or five pieces at every visit, which was usually four or five times a day. The urine became more abundant. Constipation continued, the last passage for the month being on the seventeenth. A free movement was obtained on April 3. Three slight passages the twenty-eighth, the day of the operation, and a good movement the thirtieth. April was ushered in by the reappearance of menstruation, which lasted seven days. The last bone was passed on the ninth. All outward symptoms subsided one after another except obstruction of bowels. Finally peritonitis became general with pain and great tympanites; nausea and vomiting was more or less constant. The temperature range was 99 to 101.

Having despaired of the bowels moving I recommended an operation April 16. The consent of the relatives was not obtained until ten days later, when Dr. D. A. K. Steele, of Chicago, was called. Making an incision in the median line of the abdomen, loops of intestine were brought up and the fecal masses carefully broken down. The obstruction was in the large bowel and was due to fecal impaction. Remains of the ectopic gestation were sought for but practically found wanting. There were no adhesions. A small tab of healthy tissue about two inches in diameter and half an inch thick was attached to the right and back portion of the bladder.

On the right ovary was a cystic tumor about the size of a walnut and two smaller ones on the broad ligament. The ovary was tied off and removed in the usual way. The recovery was uneventful and convalescence rapid. The bowels moved freely the third day after the operation. To-day my patient is in good flesh and fair health. She is doing most of the housework for a family of six.

In conclusion, I suppose this patient conceived near the first of October, 1893; that the pregnancy was in the right Fallopian tube and that the tube ruptured in November; the embryo escaping into the broad ligament, continued to grow for perhaps six months and died, becoming a foreign body. Pressure symptoms supervened, followed by infection, ulceration and discharge of the contents of the sac into the bladder and out through the urethra. She was confined to her bed ten months. From the passage of the first bone to the last one was seven months less two days. During most of this time she suffered intense pain. No record was kept of the amount of morphin given hypodermically, but three hundred grains would be a fair estimate. The habit, if in reality there was any habit, was broken up by the sudden withdrawal of the drug the day following the operation. There was no menstrual flow from June 28, 1893, to April 1, 1894. Both before and since, the flow has been copious and comes about every three weeks.

There was total suppression of urine for ten days at two different times. In February the total amount passed was 128 ounces—an average of four and a half ounces daily. The bowels moved only five times in February and only once from March 17 to April 28, *i. e.*, once in forty-two days. The amount of bone passed was five ounces by weight and more than a thousand pieces by actual count. I have them here in an eight-ounce salt mouth bottle and they fill it to the neck. They will be passed around immediately for your inspection.

NINE YEARS OF DIPHTHERIA;

INCLUDING ONE YEAR'S EXPERIENCE WITH ANTITOXIN, CALLING ATTENTION TO EFFECTS PRODUCED IN DISEASES AND MORBID CONDITIONS OTHER THAN DIPHTHERIA.

Read at the Forty-eighth Semi-Annual Meeting of the Mitchell District Medical Society at Bloomington, Ind., Dec. 27, 1895.

BY H. T. DALGLEISH, M.D.

VEVAY, IND.

While using the serum treatment during the past year, both as a curative and as a preventive agent in a series of nearly three hundred cases, some very startling results, not so far referred to by any of the writers upon the subject of antitoxin, or at least if described by any other observer such description has not come to my notice. In these days of our entrance into a new era of medicine every new result from the use of a serum is worthy of close study and publication to the world for use. We who believe in the serum-therapy are going to be given a stubborn battle by our brother practitioners who refuse to see any good results from any serum, and who classify all such products in the same category as Koch's tuberculin; they also seem to think it a sacred duty to preach dire death and damnation against all who have the temerity to use such a remedy. The expression "refuse to see" is used advisedly, for if you ask a physician who opposes the use of antitoxin why he so opposes, the answer will usually be, that Koch's lymph was a failure and this is *just like it*, and then when further questioned as to the source of such remarkable information concerning the identity of the products, he will confess that he has neither used the remedy nor even taken the trouble to read the medical journal reports from those who have used it, but simply shuts his eyes and blindly refuses to see anything but adverse reports, and no matter how absurd or patently untruthful those reports may be, accepts every word and gloats over such an article as a personal triumph. I have brought upon my own head some such pet names as murderer and poisoner, so I say to all such brother physicians as see the dawn of the new day in which "the serum-therapy" and the principle there involved, will be the basis from which all diseases will be attacked; watch your cases closely; study them carefully and report any and all unusual or previously unnoted results, for one apparently trivial feature in a case may be, by directing attention to it, the means of saving many lives. No symptom is so unimportant but that it should be noted, no person so humble but may instruct the greatest. The results of experiments now being made in various laboratories in preparing and using a serum for almost every known disease, only partial reports of such having been made public, make it certain that in days to come medical history will have but two divisions, *the ante-serum* and *the post-serum periods*. Serum-therapy is the logical result of the germ theory of disease causation, which is only in turn a microscopic demonstration of the doctrine of the survival of the fittest.

In October, 1886, diphtheria appeared in a mild form in Vevay and from that date to the present time there has never been six consecutive months within which I have not treated cases of the disease; the months of September, October and November have in every year produced the largest number of cases, except the past year. In December, 1894, the disease appeared in its most malignant form and has continued ever since. The disease has varied in virulence very greatly in different years; during September and October of one year I treated 123 cases without a death, the cases being all in a mild form with no tendency to invade the larynx; on the other hand during November and December of 1892 five cases treated all proved fatal, the larynx being invaded in each case, so-called membranous croup, a term, by the way, which is rapidly disappearing and the more sensible one of *laryngeal diphtheria* used in its stead, the location of the diphtheritic deposit being the only distinction. I never could understand how anyone could believe that there was any pathologic difference between diphtheria and so-called membranous croup, for in a large majority of cases the deposit begins on the tonsils and extends downward into the larynx, occasionally beginning in the larynx, and spreading upward into the pharynx. It would have been just as sensible to contend that in those cases where the deposit extended from the pharynx into the nasal cavities that the disease essentially differed in its pathologic character. Now, happily, the discovery of the Löffler-Klebs bacillus has forever settled the controversy. When I first began practice the very general treatment of diphtheria was by whisky administered in very large doses internally, and a mixture of Monsel's solution and glycerin applied locally; some advocated also the administration internally of very large doses of tinct. ferric chlorid, the very general belief being that the disease was at first local, and if the deposit was removed early in the disease the system would remain unaffected, the reverse we now know to be the fact; the deposit is the local manifestation of general toxemia, as a chancre is a local manifestation of a poisoned system. Before treating a dozen cases of the disease I noted that however often the deposit was removed so long as fever and other systemic symptoms were present the deposit rapidly returned, but upon the subsidence of the fever and disappearance of other symptoms of infection, the deposit, or false membrane exfoliated without any local treatment. And from that time to the present I have never used any local treatment whatever with the object of removing the false membrane, but solely with the view of rendering or keeping the deposit aseptic. My treatment until the discovery of antitoxin has been the tincture of iodin in dilute alcohol. For an adult one drop of tinct. iodin to thirty drops of alcohol with enough water added to make a tablespoonful swallowed slowly every hour, and the dose of both iodin and alcohol diminished in proportion to the age of the patient. In all but the malignant type of the disease it acts like magic; its great advantage over all other remedies being that it will be retained when all other remedies as well as food are rejected by the stomach.

Since Jan. 1, 1895, I have treated fifty-seven cases of diphtheria varying from the most malignant to moderately severe cases, none having been mild. Antitoxin was used in all cases; there were two deaths with fifty-five recoveries, a mortality of less than 4 per cent. During the same time I have made over two hundred inoculations as a preventive measure; not one of those inoculated have taken the disease. Quite a large number of those inoculated had been exposed to malignant cases, and in several instances where a case occurred and the whole family had been exposed, but some members having declined to be inoculated, some of those so declining contracted the disease, while all of those inoculated escaped. Nine persons were inoculated after prodromal symptoms were present and well marked, and in all such cases all of these symptoms had entirely disappeared within thirty-six hours. When inoculating as a preventive measure I have uniformly given 200 antitoxin units (Behring) and repeated the same at the end of three months. As a curative measure, when the disease was well established, the dose has varied greatly, being governed by the duration, age of the patient and by the severity of case as indicated by the symptoms, as follows: Where the membrane was still confined to the tonsils and the temperature not exceeding 102 degrees F. I have uniformly given 400 units, watched results and if at the end of twenty-four hours there was an improvement as indicated by subsidence of fever and no extension of membrane, given 200 additional units, and in such cases uniformly nothing more was required. But if at the end of twenty-four hours there was no improvement, the case remaining unchanged, 400 additional units was given and repeated each twenty-four hours until cured. If after first giving the 400 in such cases, at the end of twelve hours, when I always make my second visit, I found the symptoms worse I gave from 600 to 1,500 units additional according to the apparent severity, I then visit my patient every six hours, administering 200 units at each visit until improvement is manifest.

If on first seeing my patient the false membrane has invaded either the larynx or post-nares, or the terrible stench indicates that the streptococci have been absorbed and that in addition to the toxic effect of the bacilli diphtheriæ, I have a case of septicemia to fight, I administer from 1,500 to 4,000 units at once and then give from 200 to 1,000 additional every six hours until improvement, and I have never yet treated a single case that there was not improvement. The two cases in which there was a fatal result both died after my visits had ceased and they apparently were safely convalescent. One, who, contrary to my instructions, had been allowed to go out in the yard and spend the afternoon reviewing a circus parade, died that night from heart failure, not paralysis. The other died from heart clot. Both had been of the most malignant type, having in addition to involvement of both nares and larynx the additional feature of septicemia. In both case the false membrane had readily disappeared from all points, after which I had a long, stubborn battle with the septicemia (due to the streptococci) which left them extremely enemic. Both cases were far advanced in the disease before treatment was begun, the glands being greatly swollen when first seen (the cervical lymphatic glands). One recovery was a case primarily of laryngeal diphtheria, the membrane extending on the third day to the tonsils.

Summing up, my conclusions are as follows: In average cases when seen early, give from 400 to 600 units and repeat at intervals of from six to twenty-four hours. In malignant septic cases or where the larynx is involved, give from 1,500 to 4,500 at the initial dose and repeat with from 200 to 600 every six hours and give stimulants. When the nares are involved use an antiseptic wash every two to four hours.

So far as the membrane or diphtheritic deposit is concerned the greatest danger from it is the streptococci and the staphylococci contained in the superficial layers and which if absorbed add to your case, which is primarily a poisoning of the blood with a toxin generated by the Löffler-Klebs bacilli, either from their life activity or as a product of their decomposition after death. The additional element of ordinary septicemia, the danger of absoption, is much greater from the larynx than from the pharynx, and greatest of all from the nasal cavities, they being so difficult to cleanse, and the danger of absorption from the nares continues for weeks if the antiseptic douche is not continued for some days after the membrane has disappeared. Paralysis after diphtheria is nearly always due to pus absorption, hence the necessity for keeping the superficial layers of the deposit which contain the pyogenic bacteria aseptic. Paralysis after cases treated with antitoxin is slight and rare. The bacilli diphtheriæ are burrowed in the mucous membrane and the diphtheritic deposit or false membrane is thrown up as the crawfish chimney is thrown up by the crustacean as he burrows in the ground. When the underlying bacteria die the deposit exfoliates. The exhaustion following even mild cases of diphtheria not treated with serum is entirely wanting after the serum treatment, most patients expressing themselves as being *stronger and more vigorous after recovery than before contracting the disease.* In addition to the preceding remarkable fact, the following additional surprising results were noted as a consequence of serum inoculations: Some were made as a preventive measure and part were purely experimental, being made by me with the consent of parents. A child 13 months old was weak and undeveloped, having been bottle-fed and had never taken any form of nourishment without also taking a digestive ferment with the food or after. It had also suffered from birth almost constantly with diarrhea and vomiting. This child along with the other members of the family was inoculated with serum as a preventive; since twenty-four hours after the inoculation it has never taken a dose of medicine, has not had diarrhea and rapidly gained in weight. The father called my attention to the fact about a month after the administration of the serum, and while on my way home from his house I met a lady who is the mother of a child with the same history, and which had been inoculated a few days before the first case; the mother called my attention to the child and stated that the results had been identical with the other. Since then I have inoculated a considerable number of children with the object of improving their nutrition and digestion and the results have been magic in every case. A tuberculous patient has been greatly benefited since being inoculated as a preventive of diphtheria. Two paralytics treated at their own request by serum injections have improved in weight and strength in parlyzed muscles. Two cases of melancholia treated by me for want of some

better thing to do in their cases, have shown improvement; but these as well as the former two are not trustworthy, as the results may be purely from a psychic cause.

The most satisfactory results of all in this class has been in two little boys born of tuberculous parents, and since birth have been subject to ulceration and pus formation in various portions of their bodies, so-called scrofulous children. One is six, the other is eleven years of age; both were thin, pale and anemic; both have grown fleshy and much stronger, the color of the skin entirely different; in short, an entire change in their nutrition.

BACTERIOLOGY.

Read in the Section on Dental and Oral Surgery, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY S. A. HOPKINS, M.D.

BOSTON.

(*Concluded from page 275.*)

In connection with diphtheria, certain important work has been done at the Harvard Bacteriologic Laboratory, and as I myself have been engaged in that work, it might interest you if I describe in brief what has been accomplished. The Board of Health of the City of Boston has turned over to Dr. Ernst and his associates the work of making examinations in suspected cases of diphtheria, and of preparing the antitoxin for its treatment. The following method has been adopted and has proved eminently successful in examinations for this disease:

Boxes are provided containing two tubes of culture media. Usually blood serum or hydrocele fluid is used, agar-agar if they are not to be obtained. These boxes also contain a platinum wire, and they are to be procured at the college or from drug stores which are scattered throughout the city. When a suspected case presents itself the physician procures one of these boxes and proceeds to the house of the patient. After sterilizing the wire, he places it along the edge of or into the deeper portion of the false membrane of the throat. He then draws it lightly over the surface of the culture media in the tube, and the box is sent to the laboratory. There the culture is allowed to grow over night in an incubator kept at the temperature of the body. The method of its growth is noted, and cover-glass preparations are made and submitted to the microscope. In twenty-four hours or even less time the physician receives his report and is able to make a diagnosis. Occasionally a second or even a third culture may be necessary, as the fact of the bacillus not appearing in the culture is negative evidence only, and may be due to a technical mistake or lack of care in inoculating the culture media. After the patient has recovered, or after apparent recovery, cultures should still be made at frequent intervals, and not until two or more negative cultures have been obtained should the patient be allowed to come in contact with others. Frequently the bacillus appears several weeks after apparent recovery. It is expected that the antitoxin treatment will be introduced to go hand in hand with this work of the board of health, and to that end both the State Board and the Board of Health of the City of Boston have made arrangements for the production of antitoxin from horses.

The preparation of antitoxin is exceedingly interesting. It is known that certain animals can be immunized against certain diseases, and upon this assumption rests the foundation of serum-therapy. This immunity may be produced in several ways; one is by inoculation of a different disease of a milder type, as in the familiar example of vaccination; another is in attempted cultures of the same disease, producing the disease in a mild form; still another is by inoculating with the poisonous products resulting from the growth of the bacteria, the tuberculin, which is the toxin of tuberculosis; a fourth is by on antitoxin produced in the system as a result of the action of a toxin. When such a poison or toxin is inoculated into susceptible animals, a peculiar cell action, about which our knowledge is limited, takes place, which results in the production of an antidote for that poison.

In diphtheria, the Klebs-Löffler bacillus is found in the throat; we do not expect to find it in the blood. Its presence then in the throat does not necessarily produce death. It does, however produce a poison, a toxin which, entering into the blood, may result in death if the cell action is not active enough to produce something in the nature of an antitoxin which will overcome the effects of the poison. I do not want to convey the impression that a simple chemic antidote for poison is produced in the blood, for it is probable that this is not the case, but that certain changes in the tissue cells, possibly some leucocyte action, enters into the process as well; but for the sake of simplicity we speak of it in this way as an antidote to the poison. If, therefore, the cellular action is sufficient, an antidote is produced which overcomes the poison, and the patient recovers. It is for the purpose of supplying this antidote artificially that we prepare the antitoxin from horses. Horses are selected because they are easily immunized and the immunity can be carried to a very high degree. They are usually healthy animals, are easily handled, and a large quantity of blood can be taken from them without serious injury, which blood contains a large proportion of serum. The steps of the process are somewhat as follows:

We first make a virulent culture from some severe case of diphtheria. It is, however, a fact well known in the laboratory that the most virulent cultures do not always come from the severest cases. We have to determine the degree of virulence by experiments. This is done by inoculating a small quantity of bouillon, and allowing the bacillus to develop in this for twenty-four or forty-eight hours. The bouillon is the ordinary beef bouillon with 2 per cent. of peptone and a small quantity or salts added. Microscopic tests are then made to determine if the culture is pure, and if it is found not to be contaminated, experimental inoculations are now begun upon guineapigs, and if it is found to kill in forty-eight hours a guineapig of 500 grams with a dose of .5 c.c. the culture is assumed to be virulent. An autopsy, however, is made to confirm, and if it is then ascertained that the guineapig died from this cause, we feel sure that the culture is virulent. The cultures increase in virulence as they pass through the animals.

The next step is the inoculation of large quantities of bouillon in flasks of appropriate size with this virulent culture, and these flasks are placed in an incubator kept at the temperature of the body, and the bacteria are allowed to grow and develop for a month or six weeks. By passing a current of filtered air over the bouillon in which the organ-

isms are growing, the process may be shortened, and in three weeks, if everything has been favorable, we may have a toxin which is of sufficient strength for inoculation. The bouillon is taken from the flasks and carefully tested to see if there are any organisms except the Klebs-Löffler, and if no contamination is shown, it is filtered through a porcelain filter, a modification of the Chamberland candle, suggested by the brilliant Japanese scientist Kitasato, and it is then ready for the inoculation of horses. Before inoculation, however, its strength is tested on guineapigs. A normal toxin is one that will kill a guineapig of 500 grams by a dose of .1 c.c. in forty-eight hours or less. Toxin of this strength requires great care in handling it, and in the first injections into the horses a small percentage of Gram's iodin solution is usually added to reduce its irritant properties. Injections having once been begun are carried on at intervals of a few days, gradually increasing the doses, until at the end of two months an injection of 50 c.c. of a normal toxin can be made without the horse suffering any ill effects beyond a certain febrile reaction. This failure to react under increasing doses indicates that immunity is becoming complete, and at the end of a period of not less than eighty days, usually a much longer period is required, if the injections have been successful, there should be a very considerable amount of immunity, and at this time the jugular vein may be opened and a certain quantity of blood taken from the horse.

From the serum of the blood thus taken the antitoxin is prepared, and its preventive and antitoxin power is determined upon guineapigs by finding what percentage of antitoxin will be required to overcome a fatal dose of the normal toxin. For practical use this power should not be less than 1-50,000 and if 1-100,000 can be obtained so much the better; that is to say, 1-100,000 of antitoxin in a guineapig should prevent fatal results from the inoculation of an amount of toxin which would ordinarily kill in forty-eight hours, that is 1-10 c.c. of toxin will kill 500 grams of guineapig; 1 c.c. or ten times as much will kill 5,000 grams in the same time. Now if 1-10 c.c. of antitoxin will render inert 1 c.c. of toxin it is an antitoxin of the strength of 1-50,000; if it is double that strength it is an antitoxin of 1-100,000. Do I make myself understood? It is possible to produce it even stronger.

To indicate what has already been done by this method of treatment, I would refer you to the reports of the Hospital des Enfants Malades in Paris, where the reduction of mortality in the diphtheria wards has been from 60 per cent. to 24 per cent. Later advices from Paris would seem to show a still greater improvement. At the City Hospital in Boston the treatment by antitoxin was begun December 9, and the period from which I take the following figures was from that date, December 9, to about January 22. At that time, as you know, the antitoxin was very hard to get. It was not to be obtained in large quantities, and was very expensive for hospital work; moreover the antitoxin power of the serum was not as great as it should have been. Manufacturers who had been tempted by the high prices had put material on the market before it was ready for use.

Notwithstanding these drawbacks, of sixty-nine cases treated only eleven died. This is a percentage of about sixteen, and during the corresponding period of the previous year the death rate was 52 per cent., and that is the usual hospital death rate from diphtheria. It should also be remembered that only the severe cases were treated by antitoxin on account of the expense. Of the eleven patients that died the average length of time which had elapsed since the beginning of the disease until they were treated was 5.2 days, so long a period that in some cases the patients were almost moribund when they entered the hospital. Some of the cases were complicated by other diseases, one patient dying with scarlet fever four weeks after apparent recovery from diphtheria, one dying from pneumonia, and so on. Without elaborating this subject, if these results are to be corroborated by further and wider experiments, it would seem that in antitoxin we have a remedy that in uncomplicated cases which are treated early and in sufficient doses will prove almost unfailing. But more important than this is the fact that through this agency we seem destined to acquire a new system of therapeutics. The door is open for further investigation, and it is impossible to predict how many diseases may answer to treatment on similar lines.

If I have perchance exhausted your patience in thus enumerating some of the results accomplished by bacteriology, I have done so under the impression that to no class of specialists is the subject fraught with greater interest than to dentists. The mouth is teeming with bacteria and is indeed a hotbed perfectly adapted for their production and development. Not one of the necessary conditions is wanting. We find the exact temperature best suited to the growth of most varieties, we have the moist condition, free access of oxygen, and we have in the broken down epithelial cells and in the particles of food, which even the greatest care can not remove, a perfect soil for their development. Investigations in this field teem with the possibilities of brilliant discoveries that may serve to revolutionize our whole practice, and render to our suffering patients inestimable services. The field is one that is almost uncultivated, and scientific work in this direction can not fail in producing wonderful results.

Even the brilliant work of Miller, Vingal, Black and others has been but a beginning, an important beginning I grant, which will make the work of studying these forms easier for you and for others who may attempt their study, and we shall have daily occasion to be grateful to these pioneers for the difficult work which they have performed. The tendency has been, however, to cover too much ground, and the incompleteness of the work is best described in Miller's own words: "I myself have made the mistake, which I think others have made, of attempting the impracticable task of examining all the species which I have isolated instead of concentrating my attention upon individual cases and studying them thoroughly." This certainly has been the tendency, and in but few cases has the work been carried out to its ultimate completion. To illustrate my meaning better, certain chromogenic or color-producing forms probably account for certain discolorations of the healthy teeth and for the pigmentation of carious dentine, but in the present state of our knowledge, we can go little further than the mere statement of the proposition, although it is a subject of vital interest to us. Work upon the fermentative power of certain mouth bacteria seems to point to the conclusion that some of the digestive processes are dependent upon the presence

of bacteria. Yet we are still in the dark as to what forms perform these important functions.

In connection with diseased pulps, we have a great deal to learn. It is no reflection on our intelligence to say that probably not two men in ten would use exactly the same methods in treating the same conditions presented by a diseased pulp. I am convinced that through applied bacteriology we shall be able to differentiate between the various conditions, and to treat them with uniform success. One of these conditions has recently occupied my attention, and I hope in time to offer some definite results. It sometimes happens that a dead tooth which has given no trouble for years sets up an active inflammation a short time after it is opened. This has been accounted for by saying that the entrance of air laden with bacteria produces the trouble. Miller demonstrates that a liter of air contains such a small number of bacteria that this explanation is unsatisfactory, and he disposes of the matter by asserting that it must be due to the carelessness of the operator in forcing putrid matter through the foramen apicale or in introducing infection by means of unclean instruments. I think these charges may be unfair, and I think the explanation will be found in the fact that certain facultative anaerobic bacteria become aerobic and develop rapidly under the new conditions which the increase of oxygen furnishes. Spore formation, I am inclined to think, may also account for certain conditions which now seem very puzzling. But this is a digression. In the greater subject of caries of the teeth such careful bacteriologic work has been done that we have no longer any doubt as to the causes of dental caries. Black in his "American System of Dentistry," Vol. i, says; "That herein lies the true explanation of the etiology of dental caries there is no longer a reasonable doubt." My own opinion is that he has not put the matter too strongly, and that we but waste time in pursuing other theories. Much remains to be done, however, in the way of differentiation and classification of the various phenomena of this disease, and it presents an inviting field for the investigator.

Miller describes the process of caries as a chemico parasitic one, and divides it into two stages, the first being the destruction of the enamel by acids. The destruction of the enamel is chiefly due to lactic acid, which we have learned is brought about by the action of bacteria, several forms being probably engaged in the work, and saccharin and starchy foods being the important media for their development.

The second stage, the destruction of the dentine, is now pretty generally accepted as being due to bacteria, but to what specific forms these changes are due is still a matter of conjecture. Our present knowledge seems to point to the fact that the so-called leptothrix buccalis is not to be considered as one of these forms. Miller calls particular attention to five different kinds, four of which are cocci forms, and one a bacillus or spirillum. All have the general property of fermenting carbo-hydrates and of producing lactic acid. Galippe and Vignal have isolated six varieties, five of which are bacilli and the sixth a large coccus.

A puzzling discrepancy you will at once see exists between the results of these brilliant workers. In the October number of the *Centralblatt*, Dr. Carl Jung gives the results of important work that he has done in the same direction. He has isolated ten different varieties, eight of which are rod-shaped forms and the other two cocci. He has made use of a variety of culture media, and has advanced our knowledge of this subject a little further in the unknown field, but he concludes by saying that although one or another kind of bacteria may take part in a particular measure in the various forms under which caries appears, it must be proved by more advanced research. To this I would add that further researches must be made along the lines which Koch has laid down as applying to all pathogenic forms, and which I repeat: 1. The organism must be constantly present. 2. Pure cultures must be made. 3. These must be able to reproduce the disease. The first two conditions have been in a measure fulfilled in caries, although much still remains to be done in the way of devising new culture media. To fulfill the third condition, a most interesting field for experimentation is opened to us. Before we can determine the specific factors in caries, we must first fulfill the third of Koch's laws and produce the disease by pure cultures of the bacteria that we find to be constantly present. Such work presents obstacles but no insurmountable barriers, and it can be carried out upon lines somewhat as follows: A certain number of freshly extracted teeth must be obtained and covered with parafine, wax, or other suitable material, leaving exposed only such portion as we wish to have acted upon. One of these, previously sterilized, is placed in a mixture of bread and saliva in a test tube, plugged with cotton and carefully sterilized. Into this is then introduced a pure culture of one of the organisms, and the culture is allowed to grow at the temperature of the body for several months. The experiment is varied by selecting teeth of all kinds, by boring into some and exposing different portions, by varying the kind of organism used, and by mixing the cultures in some of the tubes. This work has never yet been carried out to its ultimate completion, but the work is now in progress, and I refer to it in order that others may be encouraged to take it up. From what I have seen, I believe that when this ASSOCIATION holds its next annual meeting we shall know the specific work performed by the various organisms that take part in the destruction of the human teeth, and shall be able to differentiate between one form of caries and another. When this is accomplished, we shall be far on the road leading to the discovery of more suitable prophylactic and curative measures than we now possess.

I have taken so much of your time already that I will not stop to point out the bacteriologic aspect of pyorrhea alveolaris and other baffling diseases of the mouth, nor can I more than hint at the possibility of the saliva becoming pathogenic under certain conditions, but all these are burning questions which we have got to solve if we would elevate the profession and make it what it should be, an important branch of medicine.

Throughout this paper I have purposely avoided any reference to the treatment of diseased conditions and to practical operations, for as I said in the beginning, no class of men are more alive to the practical affairs of their profession than the dentists of America. It has been my object rather to stimulate your interest in bacteriologic work, and perchance to induce others to make further progress in the direction that I have pointed out. If I shall have succeeded in this, I shall feel that my labor has not been in vain.

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SATURDAY, FEBRUARY 15, 1896.

EUGENE FIELD.

In an eloquent tribute to the memory of the late EUGENE FIELD, the *Medical Mirror* of St Louis, says:

EUGENE FIELD had promised to furnish the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, a special poem descriptive of the doctor's life. It was the intention to have had it liberally illustrated and FIELD was planning in his mind the play of the lines. Indeed he had expressed great enthusiasm in the work, feeling that it was an opportunity for him to delineate the doctor as he had met him and as he knew him an ever faithful and devoted friend of his patients. By association and general equipment he was in good form to have presented a product which would have marked an epoch for the medical profession in a literary way, and we venture the opinion that the subject was one so filled with interest and general attractiveness that the work which was being planned so enthusiastically would have been the literary cap-sheaf of his life, one arousing the interest and the appreciation of the entire medical world. So that his sudden and untimely death was more than ever a calamity to the lovers of true sentiment.

The plan as outlined by MR. FIELD was to take for his type some middle-aged practitioner engaged in family practice, and follow him in his rounds on a Christmas morning. The child patient surrounded with every luxury; the child in less favored circumstances, and the poor sick child amid its pathetic surroundings, were each to have their say to the good doctor as he traveled on his errand of mercy from house to house, and that EUGENE FIELD, better than any poet then living, could have voiced the tender Christmas prattlings of the infant clientelage, every one who has read the productions of the child's poet must admit. And so the loss of EUGENE FIELD was a direct and personal loss to the medical profession.

The article as outlined above, was intended to appear in the Christmas number of this JOURNAL, and to several friends he mentioned thoughts and expressions that he intended to have his sick children use, but man proposes, God disposes.

TREATMENT FOR PHTHISIS PULMONALIS.

In a very interesting article,[1] DR. CYRUS EDSON, of New York, states that during a study of phenol, made in the early part of 1895, he was very much struck by the observations of STADLER, MERCK, BRIEGER, SALKOWSKI and others, to the effect that phenol could be found in the urine of man, the horse, and the cow, and that during health it is a normal constituent of the urine, and during disease the per cent. is enormously increased. He is of opinion that the high temperature of fever may arise from the poisoning of the nerve-centers by such products, and that if this be true, the increased secretion of phenol by the system during disease is an evidence of the *vis medicatrix naturæ*. This led to the proposition: "If nature herself provides phenol during disease, then it can not be possible she will not tolerate the administration of the agent in effective dosage," and yet the fact that effective dosage was believed to cause poisonous symptoms, seemed to be against its use. It is apparent that phenol being the only known antiseptic agent, except cresol, of which the amount in the system is increased during disease, it would be best to select that for experimental purposes, and the problem of DR. EDSON is to find the form of solution of phenol which nature would tolerate. It is to be remembered that creosote is not phenol, but has it as one of its constituents, and that the two substances are therefore not identical. In the opinion of DR. EDSON, the success of the creosote treatment depends mainly on the presence of the phenol. After a long line of experimental work in the laboratory, he has produced a fluid which he uses in his formulated treatment of phthisis, which DR. HENRY A. MOTT speaks of as "aseptolin," and which term DR. EDSON adopts. The fluid is a chemically pure solution of pilocarpin-phenyl-hydroxid. He added the pilocarpin for two reasons: First, "to induce leucocytosis; second, to stimulate glandular activity." It also accomplishes a third purpose, for it is an expectorant and stimulant of secretion of very considerable power. It causes a certain increase in the amount of water separated from the blood in the lung cells. This is shown by the fact that there is an increase of watery vapor carried off by the breath of a person taking it. After a short study of pilocarpin, he further says: "From what has been said, it will be apparent to all chemists that the fluid is a hydrophenol, containing a definite

[1] Medical Record, Feb. 8, 1896.

amount of the new pilocarpin compound. The solution prepared in my laboratory is a colorless fluid, strongly refracting light, having the characteristic odor and taste of phenol. Injected under the skin, it causes a sharp, burning pain, not so severe as that following an injection of bichlorid of mercury in solution.

"In the great majority of cases the injection is not followed by any local irritation whatever. . . . . Though I have given over one thousand injections, and some of them very large ones, viz: single injections of 350 minims each, I have not seen a single abscess resulting therefrom, and nodulation in only two cases; one of these was on my own person, following an injection of 250 minims for experimental purposes. No reaction, such as follows the administration of tuberculin, is observed after the injection of properly prepared pilocarpin-phenyl-hydroxid solution, nor is there any visible physiologic action following an injection of 250 minims, given to a man weighing 150 pounds, except that the urine passed subsequently reacted strongly to tests made to ascertain the presence of phenol, and traces of phenol were noted in the condensed vapor of the breath, and in the contents of the stomach drawn off through the esophageal tube within three hours of injection." He recommends a dose of fifty to seventy minims daily to commence with, given in the abdominal parietes in a single injection, This dose should be increased ten minims daily, until 100 or 120 minims is reached. With these injections, he injects daily, or in some cases every other day, according to the severity of the case. He gives inhalations delivered from a spray. The most efficient of these sprays he has found in a 10 per cent. solution of iodoform in ether. The object of the spray, he says, "is to assist in clearing the larynx and bronchi of infective material contained in their secretions." Where this spray is not tolerated by patients, he uses a carbolic acid spray for a few times, after which the iodoform and ether can be used in most cases. Not only does he regard this as a useful treatment in phthisis, but in malaria as well. It will be noticed that DR. EDSON does not herald this as a "cure," but simply submits this treatment to the profession, and we are inclined to believe that the startling announcements in the papers, like the notice of a bill agent, with which this new treatment was heralded, was due rather to the enterprise of our distinguished contemporary, than to any desire on the part of DR. EDSON to place himself in a false light before the profession. He has experimented sufficiently to make it clear that he has produced a useful method. Whether or not it may reach the dignity of a specific, he very properly leaves the profession to decide after a careful trial of the remedy.

We will reproduce the article in full next week.

THE ITALIAN SCHOOL OF CRIMINAL ANTHROPOLOGY.

It is so common for men to dislike what is or seems absolutely new that we are not surprised that the Italian school of criminal anthropology—the so-called positivist school—should have so many enemies. For the teaching is so novel, so sweeping, so unpleasantly tinctured with fatalism, that it is naturally very obnoxious to the optimists of religion and science. But we imagine that much that is felt by excellent men on this subject is prejudice (if the word be not too severe) springing from a superficial knowledge of the works of the Italians themselves and their coadjutors in France and Germany. It will doubtless surprise those who have no other notion of this science than what an acquaintance with the least discreet of authors[1] affords, to be told that among those who have studied it with conviction are not only many of the most elegant of contemporary writers, but also many of the most learned and profound.[2] It is, therefore, amusing to hear that the investigations of the Italian school are mere exhibitions of morbid curiosity, or as DR. SPITZKA says: the "pseudo-anthropology is dead just about three years." A competent critic has pronounced a very different opinion, *apropos* of the recent publication of the fifth edition of PROF. LOMBROSO's chief work "L'Uomo Delinquente." "In fine, whatever we may think of the value of all these details, all these documents taken by themselves, the least that can be said of them as a whole they confirm beyond any possible doubt the thesis of M. LOMBROSO. Everybody, or nearly everybody, to-day is agreed on this point—that the criminal is an abnormal individual, malformed mentally and physically—for to every mental anomaly should correspond a physical *par dégénérescence héréditaire ou par déchéance acquise*."[3] Even DR. BAER, the most prominent and the least fair-minded opponent of PROF. LOMBROSO, admits that the criminal, *i. e.*, the habitual offender "who is apparently born such" bears "many signs of physical and mental imperfection," but these signs he goes on to say are neither singly nor as a whole so constant and essential as to make the criminal a type distinct from the rest of his nationality. We resist the tempation to examine the logical structure of this sentence. The habitual and born criminals are not necessarily identical; and it is usual for anthropologists to draw a distinction of more or less lucidity between them. But we pass to another point of view. It is well known that many anthropologists have attempted to show that in the case of

[1] Dr. Max Nordau's "Degeneration."

[2] See Taine's letter to Prof. Lombroso, Archiv. di Psichiatria, Fasc. v, 1887; Darwin: The Emotions in Man and Animals; Delzett-Newin: Ueber Sittliche Dispositionen, Gray, 1892 (in this work is an excellent criticism on the older investigations of Galton and De Candolle); Spencer: Sociology; Du Camp: Rev. des Deux Mondes, 1869; Gautier: Le Monde des Prisons, in Archives d'Anthropologie Crim., 1888; "Gyp," (an admirable study of the so-called Decadents); Dostslewsky; Le maison des morts, cit. by Garofalo, Criminologia, p. 79; Quarterly Review, October, 1894.

[3] Rev. Scientifique, October, 1895.

born criminals the phenomena of the criminal instinct are identical with the obliquities of moral insanity. A fierce outburst of polemic rage followed the publication of this doctrine. Those who disbelieved in the existence of moral insanity, and those who were averse to reading PROF. LOMBROSO's works in the original were the most *embêtés*. It is simply necessary in this and in other cases where controversy grows wicked to read the passage that has provoked all the sound and fury. "It was objected with reason against the fusion, I attempted to prove in the first volume, of the born criminal with the *pazzi morali*, that the number of these is too small. It is certainly true; but if the born criminal and *fou moral* are the same it is inevitable that not many should be found in asylums. Nor is it possible to draw a comparison between the two; since identical things are more naturally summarized than compared. But there is a point of contact between them much easier to define, and incomparably more important, in a vaster field, in epilepsy, which reunites and founds together the one and the other group into the same grand family."[4]

If the reader will refer to the fifth Italian edition of "L'Uomo Delinquente" or to the second French edition, he will find an extraordinary amount of documentary, biologic and statistical evidence to support these views. The number of criminals studied reaches nearly six thousand, as against 968 examined by DR. BAER. The reader will find, too, if he desires in good faith to make the acquaintance of an ingenious work, a learning, eloquence, fecundity, humanity, the great merits of which we should not "haggle about," as the writer in the *Revue Scientifique* says. A perusal of this work, too, will dispel a common error, namely, that an excessive value is placed upon such phenomena as the *signes de dégénérescence*. The doctrine of degeneration, says KURELLA,[5] "is imperatively in need of revision." On this point practically all observers, LOMBROSO[6] among them, are agreed. It is significant, however, that the *signes de dégénérescence* are exceedingly common in epileptics,[7] so common, indeed, as to be fairly constant. But as in criminals they are much less constant an appearance, it is impossible by means of them alone to constitute a type. Their importance it is impossible to deny.[8] An authority competent as DR. MOEBIUS,[9] makes the diagnosis of neuropathy in the appearance of even one sign, as, for instance, the Morelian ear; and any anthropologist may easily verify the observation for himself that such an imperfection is never as LOMBROSO truly says, disassociated from "*profondi quasti morali*;" or at least from distinct oddities of disposition.

It is not to be forgotten that the industry of the Italians has revealed to us a large number of signs which materially assist to establish a type, that we may call physiognomic[10] and certain traits, or "*penchants au crime*," that DR. MARRO has excellently described in his treatise, "I Caratteri dei Delinquenti." We extract from the preface of this work a passage which we think ought to be a red eye-opener for the blind optimists who see in criminal anthropology no balance, no moderation nor judgment, but only a desire to make the venture of Icarus. The following passage shows anything but the sweeping indiscretions with which the positive school is charged: "I have included the inclination to excesses (in Baccho) among the characteristics of criminals, who are more addicted to them than normal people. My own observations on this subject are in complete accord with those of other students, so that there can be no doubt about their value. With all that, I do not see in inebriety a disposition inseparable from crime, nor do I in the least attribute to alcohol a power absolutely compelling evil."

This passage is quite admirable as an example of the ability to see two sides of a question. And such moderate views abound in the works of LOMBROSO and his pupils, as any accurate knowledge of their writings will show. It is a proof of how uncommon the power to judge coolly is even among scientific men, that MARRO's work, thoroughly judicious in tone throughout, has not been unattacked by partial critics. Contrast the above from MARRO with the following: "The criminal has absolutely no especial specific (sic) formation,"[11] and "crime, on the whole, is only a relative conception; it exists only in relation to place and time."[12] Again; "whoever," says DR. BAER, "knows extensively the criminal classes, their characteristics, their appetites and aberrations, will acknowledge that such traits and uglinesses as LOMBROSO ascribes to them in such prodigious amount (sic) are not common, perhaps not commoner than among the better classes, the non-criminal portion of the population." The truth is that in opposition to this assertion we have an overwhelming amount of evidence not only from gifted observers like GAUTIER, DICKENS, DOSTOIEWSKY, MOREAU, but from trained observers like MAUDSLEY, CLOUSTON, KURELLA, GAROFALO, CASPER, KRAFFT-EBING, and even NICOLSON[13]—no believer in "criminalists." Indeed, such is the weight of authority on this point that GAROFALO is not putting it too strongly when he says: "We consider so much as solidly established that, as regards the shape and proportion of the head, the criminal is monstrous and anomalous

[4] L'Uomo delinquente, vol. II. p. I.
[5] Naturgeschichte des Verbrechers, p. 259.
[6] Cf. L'Uomo delinquente; terza ed.
[7] L'Uomo delinquente, vol II.
[8] Magnan: Recherches sur les centres nerveux, pp. 256-8.
[9] Diagnostik, p. 246.

[10] For an admirable use of these signs, see Casper. Vierteljahrschrift f. gen. Med., 1854.
[11] Baer: Der Verbrecher, p. 331.
[12] Féré, cit., Baer. Dr. Spitzka says that Baer's critique has remained unchallenged. The truth is 'Der Verbrecher" is nothing but a tissue of dogmatic assertions. It has remained unchallenged because as Prof. Lombroso says, "Si combatte coll' armi non coll' ombre!"
[13] Journal of Mental Science, October, 1895.

in a larger number of cases than the normal man; and the greater criminals, the assassins, much oftener than the lesser. . . . . Each of the three great varieties of evil-doers, the murderers, homicides and thieves has an especial physiognomy, with well-known traits and easily recognizable."[14] He remarks that he was able to distinguish the murderers from the thieves in a prison, by the peculiar cold, filmy, immovable glance that is characteristic of habitual homicides,[15] whereas the thieves have a mobile, elusive look.[16]

All this may seem fanciful and absurd to many readers. We can understand it, for the power of observing profoundly is not given to all men, and it is, perhaps, fortunately so. But in such studies as these it is absolutely essential to observe calmly and sharply, to be on one's guard against the *idola specus*, that spurious blindness of specialists, who see in everything some reference to their pet subject. We assure our readers, however, that criminal anthropology is a study that will repay any one who approaches it in a liberal spirit. It is not of such recent growth as some seem to imagine, but imbibed life from the earliest springs of psychiatry.[17] It can not be called "dead," it is very much alive, as the writer in the *Revue Scientifique* could show, a writer who represents much more nearly than DR. BAER the opinions of modern Europe.

THE ROENTGEN RAYS.

The general interest in the recent discovery of PROF. ROENTGEN, the details of which now fill the daily press and which were at first received with incredulity by the public as probably a scientific hoax, seems to call for some notice in the JOURNAL. Its medical or surgical possibilities which are already the subject of experiments in this country and Europe make this mention the more timely and appropriate in a purely medical publication.

In regard to the scientific question as to whether the results obtained by experimenters are due to the previously recognized cathode rays or to a new form of radiation as PROF. ROENTGEN suggests we can of course express no opinion; it is a matter to be decided by physicists. The fact that we have, however, a force, for that is what it may be called, that will act on the sensitive chemicals of the photographic plate through flesh, cartilage, skin, and other tissues of the animal body, is enough to be fertile of practical suggestions to any thinking physician or surgeon. The further fact that these rays go directly through prisms and lenses without modification or change of course, adds to their possibilities in a medical point of view; it insures the accuracy of the image from distortion by refractive power of the different solids and fluids of the body. The further fact that in a general way only the density of the medium penetrated seems to affect them is suggestive of practical medical and surgical possibilities, it hints at future valuable physiologic revelations as well as diagnostic aids. It is only a hint, however, and whether it is to be ever realized to any extent is perhaps open to serious question. As regards its therapeutic possibilities which have already become the plaything of the popular imagination, they may be left to future investigation; they are not in a stage as yet for medical opinions to pass on the question of even their existence. There will doubtless be an extensive advertisement of cathode ray baths, X ray treatments, etc., but it is to be hoped that any active exploitations of these will, until the matter is more elucidated by accurate scientific researches, be confined to the irregulars who have no standing in the regular medical profession.

The real utility of the discovery has so far been demonstrated to a limited extent in the field of surgery. A few accounts have appeared in the lay press of needles, bullets, etc., having been detected lodged in the tissues, and some light has been thrown on pathologic diagnosis in one or two cases. In France M. LANNELONGUE believes he has been able to show by this method that in a femur affected with osteomyelitis the destruction of bone progresses from the center to the periphery rather than in the opposite direction as had been previously held. When it is considered that the discovery is as yet only a few weeks old, and that students all over the civilized world are laboring to investigate it and to perfect the methods of its application, it may not be unreasonable to hope for much more important results in the near or remote future. At present, however, the limitations of the methods are too great and the medical nature of the discovery is, as yet, a largely unknown quantity. Its surgical utility in certain ways has probably been sufficiently indicated by what has been already done, but enthusiasm as to its future should be tempered by a scientific spirit of moderation that proves all things before building its faith upon them.

THE COMPOSITION OF EXPIRED AIR AND ITS EFFECTS UPON ANIMAL LIFE.

In May, 1893, a grant was made from the Hodgkins Fund of the Smithsonian Institute to DRS. JOHN S. BILLINGS and S. WEIR MITCHELL, "for the purpose of conducting an investigation into the nature of the peculiar substances of organic origin contained in the air expired by human beings, with especial reference to the practical application of the results obtained to problems of ventilation for inhabited rooms." With this object in view, a scheme of experimentation was

[14] Criminologia, p. 75.
[15] See Casper, loc. cit., Kurella, p. 132.
[16] Garofalo, p. 70.
[17] For proof of this statement see Krafft-Ebing's early works: Beitrage zur Erkennung und richtigen forensischen Beurtheilung krankhafter Gemuethszustande. Erlangen, 1867. References in this work to the prison work of the French alienists.

prepared by Drs. Billings and Mitchell, which scheme was carried out in the laboratory of hygiene of the University of Pennsylvania, by Dr. D. H. Bergey. The results of the conjoint labor of these investigators has been published in the shape of a memoir which forms a fasciculus[1] in the series of "Contributions to Knowledge" issued from time to time by the Smithsonian Institute.

After reviewing the existing literature upon the subject of the effects of expired air, the results obtained from a series of new experiments are presented and commented upon. These experiments had various points in view: To determine whether expired air contains microörganisms; how much ammonia, albuminoid and oxidizable material there may be present in expired air; the effects of inoculating animals with the moisture condensed from the exhaled breath; the effects of confining various animals in glass jars, etc. These are some of the problems that the authors tried to solve.

The results obtained in this research indicate that in air expired by mice, sparrows, rabbits, guinea-pigs, or men, there is no peculiar organic poison or agent of disease. The injurious effects of such air seemed to be due entirely to the diminution of oxygen, or increase of carbonic acid, or to a combination of both these factors. In ordinary quiet respiration, no bacteria are contained in the air expired. Coughing or sneezing may throw out bacteria or other particles. The small amount of ammonia and oxidizable matter recovered from the condensed moisture of human breath appears to come from the decomposition of organic material constantly taking place in the mouth and pharynx. This fact received strong support by the differences in the amount of such matters in the air exhaled through a tracheal fistula and in that expired in the ordinary manner. The air of inhabited rooms, hospital wards, and similar places, is contaminated from many sources besides the air of expiration; the most important contaminations are in the form of minute particles of dust. The greater part of ammonia in the air of a hospital ward was shown to be connected with dust particles which could be removed by filtration. In this dust were also found microörganisms and among these some of the bacteria of inflammation and suppuration.

Experiments in which animals were made to breathe air vitiated by the products of expiration, or in which injections were made with fluids condensed from expired air, make it improbable that there is any peculiar volatile poisonous matter in the air expired by healthy beings, other than carbonic acid. It is well to recollect, however, that the results of such experiments may be applicable only in part to man. The effects of reduction of oxygen and of increase of carbonic acid to a certain degree appear to be the same in artificial mixtures as in air in which the change of proportion of these gases has been produced by respiration. Habit may enable an animal to live in an atmosphere in which, by gradual change, the amount of oxygen has become so low and that of carbonic acid so high that a similar animal brought from the fresh air into it dies almost at once. A continuance of an immunity like this was noted for the first time in some of these experiments, especially in certain mice but this normal or artificial immunity is rare and the conditions upon which such a continuance of immunity depends are not understood. It was found that an excessively high or low temperature has marked effect in the causing of asphyxia by diminution of oxygen and increase of carbonic acid. At high temperature the respiratory centers are affected, where evaporation is checked from skin and mucous surfaces by the saturation of the air with moisture; at low temperature the consumption of oxygen increases and the demand for it becomes more urgent.

The proportion of increase of carbonic acid and of diminution of oxygen that exists in badly ventilated churches, schools, and theaters, is not sufficient to account for the discomfort which such conditions produce in many persons. There is no evidence that such an amount of change in the normal proportions of these gases has any influence upon the increase of disease and death rates which statistics show to exist among persons living in crowded and unventilated rooms. Consumption and pneumonia are the most prevalent diseases among persons living and working in unventilated rooms and these diseases are caused by specific bacteria that are adherent to particles of dust which are inhaled. The special liability of such rooms to become infected with specific germs of disease accounts for the frequency of these diseases in persons occupying crowded barracks or tenement-house rooms. Impure atmospheres may, however, affect the vitality and the bactericidal powers of cells and fluids and thus act as predisposing causes of infection. Exact scientific evidence upon these questions is lacking. The discomfort produced by crowded, ill-ventilated rooms in persons not accustomed to them is due not to excess of carbonic acid, nor to bacteria, nor, in most cases, to dusts of any kind. The two great causes of such discomfort, though not the only ones, are excessive temperature and unpleasant odors. The cause of the unpleasant musty odor of the crowded room is unknown; it may, in part, be due to volatile products of decomposition in the expired air of persons having decayed teeth, foul mouths or certain digestive disorders, and, in part, to volatile fatty acids in the cutaneous excretions and in clothing soiled with the latter. These odors may produce nausea and other disagreeable sensations in susceptible persons, but most men soon become susceptible to them.

"The results of this research, taken in connection

[1] Smithsonian Contributions to Knowledge, 989, Hodgkins Fund, Washington, D. C., 1895.

with other recent researches, indicate that some of the theories upon which modern systems of ventilation are based are either without foundation or doubtful, and that the problem of securing comfort and health in inhabited rooms require consideration of the best methods of preventing or disposing of dusts of various kinds, of properly regulating temperature and moisture, and of preventing the entrance of poisonous gases like carbonic oxid derived from heating and lighting apparatus, rather than upon simply diluting the air to a certain standard of proportion of carbonic acid present."

CORRESPONDENCE.

Typhoid Fever Treatment.

FRASER, MICH., Feb. 4, 1896.

To the Editor:—Many of the conflicting reports of Woodbridge's treatment of typhoid fever would give results similar to those obtained by Dr. Woodbridge if they would use capsules instead of tablets. Take a bottle of tablets that has been carried in your rig some time, use your tablets all out; what have you left in your bottle? About one-eighth of your tablets in powder form. I have used in fifteen cases the Woodbridge treatment and have not lost a case that I have seen in the first ten days of the sickness. The following is the record of a unique case: Mr. A. H., age 43 years. Seen Nov. 23, 1895, 3 P.M.; temperature 103.5; this continued within less than $\frac{1}{2}$ degree day and night until December 2, when he lost about three to four quarts of blood from bowel. Temperature 97 to 99 for two days; then three days of 102.5 to 103; the next day 100, then reached normal on fifth day after hemorrhage, the eighteenth day of fever. His wife and two daughters had the same (typhoid) fever; wife was sick about three weeks, daughters about fifteen or sixteen days. In conclusion would suggest: 1. Do not use tablets. 2. Capsule the medicine for the solution, leave it in a vial with a dropper and empty capsules to be used. If temperature is high I reduce temperature with acetanilid. Respectfully,

F. GROVER, M.D.,
Health Officer, Fraser, and Physician to the Poor of Erin Township.

Montana Has a State Board of Examiners.

MISSOULA, MONT., Feb. 6, 1896.

To the Editor:—In your issue of February 1, in an article by Dr. C. E. Farnum, "A Suggestion that National Legislation Provide for a Medical Examining Board to Confer a Special Degree of Medicine and Surgery," he *omits* the State of *Montana* as one requiring an examination for a license from all applicants in the list of States given by him. Montana has a board appointed by the governor which requires *all applicants* to pass a satisfactory examination in all branches before they are allowed to practice and this is rigorously enforced by the board, with the result that it has kept out a host of quacks and half-prepared men whose sole claim to the title M.D. consisted of a diploma. This law has also been in force for the last four years or more. Please give this notice.

Very truly yours, J. J. BUCKLEY, M.D.

Climate for Bright's Disease.

CHICAGO, Feb. 8, 1896.

To the Editor:—Noticing the inquiry of Dr. Godfrey of Camden, N. J., regarding a climate for Bright's disease, I would say that, theoretically, if it be admitted, as it very generally is, that Bright's disease is primarily a nervous affection, that the most favorable conditions from a climatic standpoint are those least stimulating to the nervous and circulatory systems. These conditions combined with soft water afford almost complete immunity from the disease among the residents of such regions. The low altitude, humid atmosphere and soft artesian water of the long-leaf pine region extending across southern Louisiana from, beginning about fifty miles north of New Orleans, to near the southern line of Mississippi, covers the above qualifications as perfectly as any region it has been my fortune to find in my study of the resorts of our country. I found in that region Bright's disease almost an unknown quantity, and I am satisfied that it will sustain the prediction that it will become very popular as a resort for kidney, skin and nervous diseases in general. There is a good hotel at Hammond, the largest town in the region, fifty-two miles from New Orleans.

A. F. MCKAY, M.D.,
Cor. Sec. World's Congress of Medico-Climatology.

Cure for Hiccough.

WASHINGTON, D. C., Feb. 3, 1896.

To the Editor:—I have found the following method a positive cure for *hiccough* without the use of drugs. Immediately after the paroxysm of hiccough, close the mouth and inflate the lungs to their utmost capacity by breathing the air in through the nose; then hold the breath as long as possible; when finally compelled to expel the air from the lungs we do so and to our astonishment find that we are no longer troubled with hiccough. Once usually suffices, but it may be necessary to repeat the process the second time for the reason that during the first trial at thorough inflation of the lungs there may come a slight spasm of the glottis, when we find it necessary to quickly exhale. Immediately after this sudden exhalation take a long, full breath (mouth closed) and hold it from twenty to thirty seconds. There will be positively no hiccough after such a procedure, provided the hiccough be not a symptom of some grave disease. I refer to the ordinary cases of hiccough which we see frequently in persons otherwise in good health.

W. L. ROBINS, M.D.

PUBLIC HEALTH.

Typhus in St. Petersburg.—The St. Petersburg *Med. Wochenschr.*, of January 4, reports that the epidemic of typhus there shows no signs of abating; 1,700 cases had been reported to December 21.

Decrease of Mortality Alleged to be Due to Antitoxin.—M. Monod reported at the last meeting of the Académie de Médecine, that since the introduction of antitoxin into France the mortality had decreased 65.6 per cent. He estimated that it had already saved 15,000 lives to the country.—*Gazette Méd. de Liége*, January 9.

Medical Maritime Regulations.—The new sanitary maritime regulations in Italy are commended as the most modern type of improved sanitary precautions. Among them is the rule that every vessel with 150 persons on board, starting for a long voyage, must carry a physician, and two, if the passengers and crew number 1,200. The vessel owners are to apply for physicians for this purpose to certain officials who keep a register of experienced men who have been practicing at least two years since they graduated.—*Semaine Médicale*, January 8.

Success of the Berlin Sanitary System.—The system of sewers in Berlin is no better than elsewhere, perhaps, but the way in which their contents are carried to a distance and spread out on land owned by the city, to be purified and rendered innocuous, while serving to fertilize the ground, is becoming the admiration and envy of other municipalities. The fertilized plains bring in an income to the city, and also give employment

to the inmates of the penitentiaries, etc. There is no unpleasant odor from them, and no complaints from persons living on and near them. Among other establishments, a military school stands in the midst of these fields and the health of 800 pupils is a convincing proof of the success of the purifying process. Those interested in sanitary questions in Paris are urging the authorities there to introduce the same system, for which the conditions are far more favorable than at Berlin.—*Journal d' Hygiène*, January 2.

On the Use of Sea Water for Street Cleaning and Sewer Flushing.—According to the *American Medical Review*, January, the experiment of using sea water for sanitary purposes will soon be tried.

"The recent formation of a company in London for supplying sea water for the purpose of flushing the sewers, recalls the suggestion made by Dr. Stephen Smith, of New York, many years ago, that the streets of this city could be cleaned economically and thoroughly by that method, and incidentally the sewers would be flushed at the same time. It was pointed out to us that New York is admirably located for securing the water from the North and East rivers at comparatively small expense to the city. That part of Dr. Smith's paper seemed worthy of serious consideration, and as the question of supply of fresh water is certain to become a vital one in a few years, it will be well for our authorities to carefully observe the operations of this new London company."

An Epidemic of Measles.—The Connecticut State Board of Health *Bulletin* reports that an extensive epidemic of measles is prevailing in Westport. The public schools have been closed, but the disorder seems to have gained a general prevalence throughout the town. It is more difficult to take precautions against its spread than in other diseases, because it is more contagious than most others, and because it is contagious even before it has advanced enough to be diagnosed. It is contagious in the incipient stage, before it can be recognized as measles. No deaths have yet occurred from it, and in general it is not a fatal disease of itself. Still it is a disease much to be dreaded, because the subjects of it are rendered much more susceptible to other diseases. The children who have it recover from the disease itself, but many of them do not regain their former health, and it has been often observed that the measles was the starting point of some other disease which eventually proved fatal.

Facts from French Statistics Concerning Habitations.—The Société Française de Hygiène has been collecting statistics in regard to the dwelling houses throughout the country, and we notice that of the 9,233,725 houses in the land, 190,521 have but one opening, and 1,724,215 have only two. This means that a whole family, with its domestic animals, occupies the one-roomed cottage, and among the Alps all are housed together for six months at a time. In many villages the stables are on the ground floor and the family rooms above. In others, the stables are used as a dormitory. This was once supposed to be one of the causes of goitre, but these statistics show that there was less goitre in these communities than in others. More than half of the houses in France are owned by the occupants (5,460,355). In some districts all the liquid household refuse is given to the pigs, even including the accumulations of the night. Entire communities were found where everyone was old; the young had forsaken them for the cities. Other towns have been entirely abandoned, like the village on the Avre, whose waters were diverted to supply the city of Paris. The railroads have built up new towns, always an improvement on the older settlements, and the fishing villages along the coast are improving and prospering with the money the summer visitors leave there.—*Journal d' Hygiène*, January 2.

Smallpox in the South.—Although there have been numerous cases of variola in Louisiana, Arkansas and Tennessee, there has been a remarkably low death rate from that cause. The *Bulletin* of the Board of Health of the State last named, for January 20, describes the course of the epidemic in two infected counties, as follows:

In Tennessee during the period from Dec. 15, 1895, to Jan. 15, 1896, there has been no case of smallpox reported outside of Memphis and Shelby County.

In Shelby County, during this period, Dr. F. S. Raymond, County Health Officer, reports in all twenty-three cases; colored, eighteen; white, five. In nearly every instance the origin of the above cases could be traced to points in Arkansas or Mississippi. In some few instances the disease was contracted from exposure to cases heretofore reported.

In the city of Memphis, during the same period, Dr. J. J. McGowan, Secretary of the City Board of Health, reports twenty-nine cases and four suspects; of these cases there were twenty-seven colored and two white, and with but few exceptions, resulting from exposure to cases hitherto reported. Thus making a total of fifty-two cases in all.

In dealing with the above cases the usual precautions were observed; all smallpox patients were removed to the pesthouse promptly, premises disinfected and a general vaccination of those unprotected was enforced.

In the counties of Lauderdale and Crockett the spread of the disease has been restricted, no new cases having been reported, and all those stricken with this disease are reported convalescing.

Sanitary Exhibition at Nashville in 1896.—The last *Bulletin* of the Tennessee State Board of Health contains a notice of the proposed elaborate exposition of sanitary appliances that is to be made at the Nashville Centennial and International Fair. The *Bulletin* says:

Beginning September 1 of this year and continuing one hundred days there will be opened in Nashville an International Exposition, which, in this country, will have been unsurpassed in its character and proportions only by the Columbian Exposition of 1893 at Chicago. The directors of "the Tennessee Centennial and International Exposition" have paid the profession the high compliment of establishing, as one of its important subdivisions, the "Department of Hygiene, Medicine and Sanitary Appliances." This, we believe, is the first time in similar undertakings in this country, that medicine, in its comprehensive significance, has had a distinct and separate department, co-equal with other leading departments, assigned it. Naturally then, as a consequence it is but reasonable to expect that the profession of our own country at least will be quick to extend its sympathy, and where possible, its active support and assistance in furthering, so far as it may, the object sought in rendering this feature a striking object-lesson of the progress made in the science and art of medicine and hygiene through the century now drawing to a close. Elsewhere in this issue will be found the organization of this department, and also the classification adopted, indicating somewhat the character and scope of exhibit contemplated in the "Section A—Hygiene, Sanitary Devices and Appliances."

Health Reports.—The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Louisiana: New Orleans, January 25 to February 1, 8 cases, 4 deaths.
Michigan: Detroit, January 25 to February 1, smallpox reported.
Tennessee: Memphis, January 1 to 31, 44 cases.
Wisconsin: Mukwonago, February 6, 1 case; Waukesha, February 6, 1 case.

SMALLPOX—FOREIGN.

Cairo, January 1 to 7, 1 death.
Cardiff, January 11 to 18, 5 cases.
Dublin, January 11 to 25, 2 cases, 1 death.
Glasgow, January 11 to 18, 4 cases.
Odessa, January 11 to 18, 3 cases, 2 deaths.
Prague, January 11 to 18, 22 cases.
Rio de Janeiro, December 28 to January 4, 28 deaths.
Rotterdam, January 18 to 25, 1 case.

CHOLERA—FOREIGN.

Calcutta, December 21 to 28, 33 deaths.

YELLOW FEVER—FOREIGN.

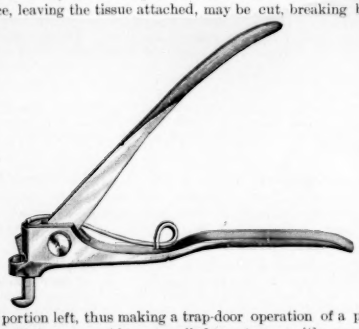
Ceara, December 24 to 31, 4 deaths.
Rio de Janeiro, December 28 to January 4, 76 deaths.
Sagua la Grande, January 18 to 25, 8 cases.
Tuxpan, January 11 to 25, 4 deaths.

NEW INSTRUMENTS.

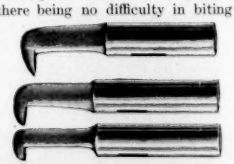
A NEW BONE CUTTING FORCEPS.

BY ALLEN DEVILBISS, M.D.
TOLEDO, OHIO.

When operating on the skull, after the first opening is made, if with a trephine, it need not be more than $\frac{3}{8}$ of an inch in diameter to admit the lower jaw of the forceps. A slot $\frac{1}{8}$ of an inch wide, and as long as necessary, can be cut out, and its direction changed so as to follow the line of fracture, or cut out a piece of any size or shape. Three sides of a small or large piece, leaving the tissue attached, may be cut, breaking back



the portion left, thus making a trap-door operation of a piece so small that we would be compelled to cut away with any other forceps now used. The jaws move parallel with each other. The lower one is small enough to enter the opening in the upper one, carrying the piece cut off out, and leaving the edge smooth and even to rest on the dura. It is an aseptizable instrument, as its parts can be separated from each other by removing the thumbscrew A. The leverage is such that it requires much less power to use it as compared with other biting forceps, there being no difficulty in biting through the



thickest portions of the skull or rib. The stem of the lower jaw gauges the amount to be cut out each time. Side bites can be taken so that the direction of the slot may be changed without materially increasing its width. After the slot is cut an inch or so long, it is best to take a side bite out, so that the lower jaw will pass in easily and not take the time to go back to the place of beginning. There are two interchangeable jaws, one cuts deeper and wider than the other. The smallest one should be used when the bone is eburnated, or when a narrow slot is desired.

BOOK NOTICES.

American Climates and Resorts. Reprint from July, 1893 to July, 1895. Comprising Proceedings of the World's Congress of Medico-Climatology, held in Chicago May 29 to June 3, 1893. 4to, cl., pp. 208. A. F. McKAY, M.D., Editor.

This is, as stated on the title-page, the reprint of the monthly publication for the period stated. Hereafter, Dr. McKay states, the annual will bear this name, while the monthly journal will be entitled *Journal of Diagnosis and Climatology*. Subscribers to the monthly will receive the annual reprint volume at the end of the year.

Sentiments of patriotism, of humanity, and not less, of native thrift indicate that Americans should develop their own resorts, instead of encouraging the annual hegira to Europe, which not only retards the improvement of our own establishments, but sends millions of dollars abroad that might well be retained. The proprietors of our own resorts have heretofore depended too much upon their unrivaled climate, and too little upon the personal comforts of their guests. The remaining at home of thousands of valetudinarians, with their dollars, is largely due to lack of information. Such publications as these are therefore to be encouraged in every way by all good citizens, not less than by the medical profession.

The book under consideration is handsomely illustrated, interesting and instructive.

NECROLOGY.

ADOLPH KIRSTEN, M.D., of Jersey City, N. J., died January 23. He was born in Germany in 1824; came to this country when a young man. He was graduated by the University of the City of New York in 1869; he practiced in Poughkeepsie and Albany for a few years, and in 1857 settled in Jersey City. He took an active interest in local affairs, and was at different times Coroner, member of the Board of Freeholders, and alderman. A widow and six children survive him.

ANNE NEWS, M.D., formerly of New York City and lately of Newport, R. I., died at the latter city on February 7, after an illness of several weeks. She was graduated in medicine in 1872, at the University of Michigan, and began practicing in Newport about twenty-five years ago, continuing until she went abroad, where she studied for two years in Heidelberg, and with Charcot in Paris. Returning to this country, she practiced in New York, and did much work in the hospital there. She then returned to Newport. She was one of the organizing members of the Newport Medical Society.

COLONEL H. ERNEST GOODMAN, Emeritus Professor of Surgery in the Medico-Chirurgical College, Philadelphia, died of heart failure on January 3, while in a train near Philadelphia, on his way to visit a patient. He had been in his usual good health, apparently, up to the moment when he was taken ill. Dr. Goodman was born in Speedwell, Pa., in 1836, and was graduated in 1859 by the University of Pennsylvania. With five brothers he served with distinction during the Civil War, and retired with the rank of Brevet Colonel. Since then he has been prominent in the Councils of the Loyal Legion, of which he was an officer of high rank. During the administration of Governor Geary Dr. Goodman was Surgeon General of the State, and subsequently was port physician. He was Surgeon to the Wills' Eye Hospital for more than twenty years, and for several years was engaged in teaching as a member of the faculty at the Medico-Chirurgical College, where he held the Chair of Professor of Orthopedic and Clinical Surgery. He was a member of the AMERICAN MEDICAL ASSOCIATION, a Fellow of the College of Physicians of Philadelphia, and also of other societies. He was very social in his tastes, and was a member of the Union League, Saginaw Club, Meade Post, Union Veteran Association and similar bodies. He married the widow of Governor Geary, who survives him, and had no children. He especially devoted himself to ophthalmic surgery, but had not contributed much to medical literature.

JOHN VAN NESS, M.D., a veteran physician of Brooklyn died suddenly from angina pectoris in the 78th year of his age. He was a notice of Northville, N. Y., the son of General and Congressman Henry Van Ness. The *Brooklyn Medical Journal*, February, furnishes the following data concerning the life of a very worthy and useful practitioner:

He received his early education in the district schools and at the Academy of Northville, and then, a young man, came to

this city, and was made a teacher in the old Brooklyn Institute at a time when it numbered among its pupils many who to-day enjoy considerable distinction in various walks of life.

In 1838 he married Charlotte Rebecca Adams, of Norwich, Conn., by whom he had five children, two of whom survive him.

In 1839 he commenced the study of medicine under the supervision of Dr. Purcell Cook, of this city, and attended medical lectures at the New York University from 1843 until 1846, when he opened an office at the corner of Pearl and Tillary streets, and engaged in the practice of medicine.

Meeting with considerable success, he relinquished his position in the Brooklyn Institute, and devoted his whole attention to his new calling.

In 1852, the Medical Society of the County of Kings conferred on him a license to practice medicine in accordance with the power with which it had been vested by legislative enactment, and in 1867 the regents of the University of the State of New York conferred on him the degree of "Doctor in Medicine" on the recommendation of the Medical Society of the State of New York.

CORNELIUS GEORGE COMEGYS, M.D., at Cincinnati, Ohio, February 10, in the eightieth year of his age. He joined the ASSOCIATION in 1884. Extended notice will appear next week.

MISCELLANY.

The New Photography.—A Roentgen photograph enabled the surgeon to locate and remove a glass splinter that was causing trouble in the joint of a middle finger. Case exhibited at the *Verein für innere Medicin*, Berlin, January 20.

Definition of Rape in Oregon.—The criminal code of Oregon, with regard to rape, was materially changed in 1895, so that now section 1733 provides that if any person over the age of sixteen years shall carnally know any female child under the age of sixteen years, or any person shall forcibly ravish any female, such person shall be deemed guilty of rape.

Government Monopoly of Quinin in Italy.—The deaths from malaria in Italy average 16,000 a year, and in order to prevent this mortality and bring quinin within the reach of the poor and facilitate its sale in the 3,000 hamlets where there is no apothecary, the Italian parliament is considering a proposition to make the sale of quinin a government monopoly, so that it can be bought in sealed packages at the rate of 2 cents per gm. at the groceries and tobacco shops.

"A Cry from Macedonia 'Come and Help Us!'"—We clip the following from our aged contemporary, the *Medical Record:*

Boycotted.—Our esteemed contemporary, the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, has a copious supply of news from numerous minor medical centers, but religiously excludes everything pertaining to the city of New York. The isolation is depressing. Is the JOURNAL preparing to move? If so we call its attention to a pleasant town situated on an island lying off the coast of Hoboken.

Bequests to Charitable Societies.—The will of Martin Brimmer, of Boston, Mass., gives $10,000 to the Boston Child's Aid Society. It provides that after the death of his wife one-half of his interest in the "Old Corner Book Store" property shall go to the Museum of Fine Arts, $20,000 shall go the Massachusetts General Hospital, and $50,000 to Harvard College.——The will of Mrs. Eliza D. Harbeck, the widow of John H. Harbeck, of New York city, leaves a considerable residuary estate to the following named three public charities, one-third part to each, namely: To the Chapin Home for Aged Men and Women, the Peabody Home for Aged Men and Women, and to the Society for the Prevention of Cruelty to Animals.

Two Oregon Laws for the Insane.—In its 1895 legislation, the legislative assembly of the State of Oregon provided for the building of a branch insane asylum on the lands selected and purchased by that State, at Union, in Union County. It also enacted that in case of the discharge or death of any person committed to the insane asylum, the superintendent of the asylum shall at once notify the county court of the county from which such person was committed of such discharge or death, and the date and cause thereof. The county court, upon such notification, is to at once enter in the journal of commitments an order showing the discharge or death of such person, and if the superintendent of the asylum shall report any person so committed and discharged as cured, the entry of such order shall be prima facie evidence of the removal of all legal disability arising from an adjudication of insanity.

One Authentic Cure of Leprosy.—Dr. Goldschmidt, of Madeira, describes in the *Bulletin Médical*, Dec. 18, 1895, a case of leprosy cured with europhen (isobutylorthocresoliodid), the only case on record, he believes. The patient showed leprous patches on the face and limbs, which he treated with a solution of 5 grams pure europhen to 95 grams olive oil. This was rubbed into the leprous patches with brisk friction twice a day, ten minutes at a time, for four years. It was also applied on cotton at night, with tampons for the nostrils all the time. The leprous patches disappeared and in some places the skin healed to look normal, in others there are scars, but there is not a trace now of leprosy nor of the leprosy bacillus. The lepers' hospital at Funchal dates from the fifteenth century, when convicts and lepers were transported from Portugal and is the only one of its kind yet in the kingdom. The poverty and insufficient food of the natives favor the development of leprosy, especially as the use of the bath is unknown. Dr. Goldschmidt has published a work on leprosy and has tried every remedy without success, until this case cited above.

Tennessee's Board of State Charities.—In 1895 a Board of State Charities was created in Tennessee, the same to consist of six persons, to be appointed by the governor, not more than four of whom shall be from the same political party, and no one of whom shall be less than 30 years of age. Three years is the regular term of service. No compensation is to be allowed. The board is to investigate the whole system of public charities and correctional institutions of the State, examine into the condition and management thereof, especially of prisons, jails, infirmaries, public hospitals and asylums, and the officers in charge of all such institutions shall furnish to the board, on their request, such information and statistics as they require, and all plans for new jails and public infirmaries and hospitals shall, before the adoption of the same by the county or city authorities, be submitted to said board for suggestions and criticism. The governor may, at any time, in his discretion, order an investigation by the board, or a committee thereof, of the management of any penal, reformatory or charitable institution of the State.

Dislocation of the Spine and Consequent Hyperpyrexia.—A woman of 40 was brought to the hospital at Schaerbeek, who had fallen backward in the course of her work, from a height of 1½ meters, striking a solid horizontal bar about the region of the kidneys. Health previously was invariably fine. The fall produced a luxation between the sixth and seventh cervical vertebræ, showing the spinal marrow, as the autopsy disclosed a complete diastasis of the two vertebræ. The lower limbs and muscles of trunk were completely paralyzed, pulse 120, respiration exclusively diaphragmatic. The unusual feature of the case was the sudden and excessive rise of temperature. One-half hour after accident it was 36.5 degrees C. In twelve hours it was 39 degrees, and in twenty-four hours it rose to 43 degrees, when death ensued. Dr. Lambotte, who described the case in the *Presse Méd. Belge*, No. 50, draws the conclusion from it that there must be some nerve center in the region of the sixth or seventh vertebra which acts with great energy to control or modify the temperature of the organism. Destroyed by some lesion this center ceases to act as moderator of the temperature, which then rises unchecked, as is proved

by the hyperpyrexia following this accident so immediately and to such an excessive extent. No possible infection could have occurred in this case and consequently it proves that fever is not necessarily of microbian origin, but may result from some lesion of a caloric nerve center.—*Bulletin Méd.*, Jan. 12, 1896.

The "Surgeon's House" at Pompeii.—The *Medical Press and Circular* has made the following condensed statement regarding the recent article of Prof. Nicholas Senn on his medico-historic researches in Southern Italy:

"Nearly two thousand years have elapsed since the Pompeian surgeons practised their art in their ill-fated town, and yet many objects of interest to the surgeon have since then been brought to light during the vast excavations undertaken for the purpose of exposing the ruins of Pompeii. In an interesting paper on this subject in the last number of the *Philadelphia Medical News* Dr. N. Senn gives a description of a recent visit that he made to the ruins of Pompeii and the Naples Museum, and enters fully into the account of what he saw in the nature of Pompeian surgical instruments. The instruments were found in a house which has been called the "Surgeon's House." They are made of bronze, and some of them show a high degree of workmanship. Some of them indicate also the destructive effect of heat and oxidation, while others are in a careful state of excellent preservation. Careful search was made among the instruments for traces of needles or any appliance which would indicate that at that time wounds were sutured. But nothing of the kind was found. The collection, moreover, did not contain any saws, trephines, chisels, or instruments for operations upon bones. Again, with the exception of the specula and catheters, it is curious to note that the instruments were of a diminutive size in comparison with those of less remote and more modern times. Judging from his instruments, the Pompeian surgeon plainly confined his 'cutting' operation to bleeding, cupping, extraction of foreign bodies, and the opening of abscesses. Dr. Senn concludes his paper by pointing out that the surgeon of Pompeii must have been a man of means and good social position; the position of his house in the most aristocratic part of the city, and its capaciousness, both testify to this fact. A liberal income, therefore, probably rewarded his labors and placed him in a position to enjoy the luxuries of life, which seem to have been the main object in life of the mass of the Pompeian people before the destruction of their city."

Practice of Medicine in West Virginia.—Chapter seven. There shall be a "State Board of Health in this State consisting of two physicians residing in each Congressional district thereof, who shall be graduates of reputable medical colleges and who shall have practiced medicine for not less than ten years continuously; they shall be appointed by the governor and shall hold their office for the term of four years unless sooner removed, . . . who may practice medicine in this State, all such persons as shall be legally entitled to practice medicine in this State at the time of the passage of this act. All such persons as shall pass an examination before the State Board of Health and shall receive certificates from the said board to that effect as hereinafter provided. . . Examinations to be *practical, written and oral* and not less than three to be held during the year. . . . The President and Secretary to sign and issue certificates to all who successfully pass the examination, and such certificates shall be deemed license to practice in this State. No applicant for license to practice medicine in this State shall be rejected because of *his* or *her* adherence to any particular school or theory of medicine. The State Board shall call to their assistance, in the examination of any applicant who professes the homeopathic or eclectic school of medicine, a homeopathic or eclectic physician duly licensed or qualified to practice medicine in this State." . . . The members of the State Board of Health are as follows: W. P. Ewing, M.D., Charleston, President; N. D. Baker, M.D., Martinsburg, Secretary; J. B. Walkinshaw, A.M., M.D., Wellsburg; L. D. Wilson, M.D., Wheeling; G. P. Dailey, M.D., Romney; W. C. Beard, M.D., Alderson; H. R. Barbee, M.D., Pt. Pleasant. Next examination at Clarksburg, on April 28, 29 and 30, 1896.

Changes in Oregon Pharmacy Law.—The Oregon legislative assembly in 1895 made a number of changes in the law which it passed in 1891, to regulate the practice of pharmacy and sale of poisons. First of all, that portion of Section 1, allowing persons other than registered pharmacists to compound or dispense the prescriptions of physicians, or to retail or dispense poisons for medical use, as an aid to and under the supervision of a registered pharmacist "or registered physician," has been changed by omitting the three words put in quotation marks. Section 7 is amended, requiring an assistant or clerk in pharmacy, in order to become registered as a registered pharmacist thereunder, to be of good moral character, to be of the age of 18 years, to be examined by the board of pharmacy, to pay a fee of $5.50 a year thereafter for a renewal of his certificate. Section 8 is amended requiring every registered pharmacist during the time he continues the practice of his profession in the State to annually and on such date as the board of pharmacy may determine, pay to the secretary of the board a fee of $1, for which he shall receive a renewal of his registration. Section 10, relating to the retail of poisons, is amended by naming a number of them, and preparations made from them, for greater certainty as to the scope of the law, which is better on this point than the law of some older States. Not only is the principal of the store which violates this section liable to a fine therefor, but the "owner, manager and principal," is now the more comprehensive designation used. But it is provided that nothing herein contained shall apply to the dispensing of physicians' prescriptions of any of the poisons aforesaid. Section 11 is amended, after excepting from the provisions of this act, the manufacture or sale of proprietary or patent medicines, by striking out the words "nor prevent shop-keepers from dealing in and selling the commonly used medicines and poisons, if such poisons and medicines are properly labeled." All actions for the recovery of penalties are to be prosecuted by the district attorney of the proper county, upon the relation of himself, or any member of the board, and all penalties collected are to inure, one-half to the board of pharmacy, and the remainder to the county treasurer for the use of the school fund.

Suicide as a Fraud upon Insurers.—Willful self-destruction by the insured, when he is sane, the United States circuit court of appeals brands as a fraud upon the insurer, whether the purpose to commit the act is formed before or after the policy is taken. It is a fundamental condition of the contract of life insurance, even if the policy be silent on the subject, the court holds, that the insured, while in a sound mental condition, will not voluntarily destroy his life. In the cases brought to the court's attention, where suicide, during sanity, was held not to be a valid defense, it says the policy was issued for the benefit of some other person, or an independent interest, by assignment or otherwise, had been acquired by a third person. Not one of the decisions, it thinks, gives countenance to the idea that the personal representatives of the insured can recover where the latter, while sane, deliberately commits suicide for the purpose of compelling payment of the insurance money to his estate, though the policy contain no provision with respect to suicide. But this precise question, it would seem, was not involved or decided in any case prior to the present one, of Ritter vs. Mutual Life Insurance Company of New York, decided Dec. 2, 1895. And here the court holds that in such case there can be no recovery, as to sanction one would be to reward fraud and wrong-doing. Some interest also attaches to the instruction which was given to the jury, that if one who intentionally kills himself when his reasoning faculties are so far impaired by insanity that he is unable to understand the moral character of his act, even if he does understand its physical nature, consequence and effect, such self-destruction will not of itself prevent recovery upon the policies. Care, it was suggested, must be exercised not to misunderstand the term "moral character of his act," as intended to be used. The domain of metaphysics was not to be entered. If the insured understood what he was doing, and the consequences of his act or acts to himself as well as to others, in other words, if he

understood, as a man of sound mind would, the consequences to follow from his contemplated suicide, to himself, his character, his family and others, and was able to comprehend the wrongfulness of what he was about to do, as a sane man would, then he was to be regarded as sane; otherwise, he was not. It is held there was no error in this charge or explanation.

Burden of Proof as to Sanity.—No, most decidedly *no*. That is practically the answer which the supreme court of the United States gave Dec. 16, 1895, to the important question: "If it appears that the deceased was killed by the accused under circumstances which, nothing else appearing, made a case of murder, can the jury properly return a verdict of the offense charged if, upon the whole evidence, from whatever side it comes, they have a reasonable doubt whether, at the time of killing, the accused was mentally competent to distinguish between right and wrong, or to understand the nature of the act he was committing?" This was a case styled Davis vs. United States, which originated in the western district of Arkansas. In other words, the supreme court here set aside a conviction of murder, was based on the idea that the defense of insanity made could not avail the accused unless it appeared affirmatively to the reasonable satisfaction of the jury that he was not criminally responsible for his acts. Now "to make a complete crime cognizable by human laws, there must be both a will and an act." The plea of not guilty controverts the existence of every fact essential to constitute the crime charged. Upon that plea the accused may stand, shielded by the presumption of his innocence, until it appears that he is guilty; and his guilt can not, in the very nature of things, be regarded as proved, if the jury entertain a reasonable doubt from all the evidence whether he was legally capable of committing crime. On principle, therefore, the supreme court holds that the burden of proving that the accused belongs to a class capable of committing crime rests upon those who affirm that he has committed it. The burden of proof is on the prosecution from the beginning to the end of the trial and applies to every element necessary to constitute the crime. Giving to the prosecution, where the defense is insanity, the benefit in the way of proof of the presumption in favor of sanity, which is a disputable presumption, the vital question, from the time a plea of not guilty is entertained until the return of the verdict, is whether upon all the evidence, by whatever side adduced, guilt is established beyond reasonable doubt. If it is not, the accused is entitled to an acquittal. Such, in brief, is the position taken by our highest court, with no dissenting voice. But, before leaving the case, Mr. Justice Harlan says that it seems to him that undue stress is placed in some of the cases upon the fact that in prosecutions for murder the defense of insanity is frequently resorted to, and is sustained by the evidence of ingenious experts whose theories are difficult to be met and overcome, so that often the most atrocious characters often go unpunished, and the public safety is thereby endangered. But the possibility of such results, the court says, must always attend any system devised to ascertain and punish crime, and ought not to induce the courts to depart from principles fundamental in criminal law, and the recognition and enforcement of which are demanded by every consideration of humanity and justice.

The Pineal Eye.—The pineal gland, by reason of its impaired median condition, its situation at the entrance of the cerebral cavities and its ribbon-like peduncles have always excited the curiosity of observers, and without knowing its structure they have attributed the most dissimilar functions to it. Galen, combating the opinions of his predecessors, who believed it to be a door for the mind, asserted that it only served to join the two veins which he described in the choroid plexus. The celebrated philosopher, René Descartes, located the seat of the soul here. For he said the rest of the brain is bilateral, and we have two hands, two eyes, etc., while we have only a single perception of the same thing at one time. Now, there must be a place where the two impressions we get from the double organs of our senses were joined in one before reaching the soul. As the pineal gland answers the requirements it must be the principal seat of the soul. Margendie believed it to be the valve regulating the flow of the cerebro-spinal fluid. While these theories are very interesting we are more concerned at present in the question whether this "gland" has any connection with a median impaired eye of a far distant ancestor. More recent anatomic studies have shown that this organ exists in all vertebrates, occurring with annoying persistence from man through the series of vertebrate brains down almost to that miserable travesty, the lancelet. It is more developed in fishes and reptiles than in mammals, it appears at an early period in man (about the fifth week) and arises in the same fashion in all animals, as an epithelial invagination from the thalamencephalon, the brain which gives rise to the optic tracts and to the middle ventricle. As far back as 1868 Leudig recognized the sensorial nature of this organ and called it the "frontal organ" and Götte showed it to be indentical with the epiphysis. Rabl-Rückhard in 1882 advanced the hypothesis that it might be a visual organ, or one for a thermic sense belonging to animals of past geologic epochs. In 1886 Dr. Graaf discovered a crystalline and vitreous in the epiphysis of lizards, and his discovery has been confirmed and extended by Baldwin Spencer. Early in the development of the vertebrate brain a median hollow diverticulum juts out from the roof of the thalamencephalon. It is generally found persistent through life as a long tube, but sometimes the distal end becomes lobular and consists of a number of follicles. In man and other mammals these follicles become more or less solid forming the pineal gland. Among lizards we find this body presenting all the charactertistics of an eye. In this group the pineal eye is most completely developed in the *hatteria* or *sphenodon*, an almost extinct lizard of New Zealand. Here we have an optic vesicle, a crystalline lens, a retina and an optic nerve, the interior of the vesicle filled with transparent tissue, the vesicle is situated in a median foramen in the parietal bone, outside the cranial cavity, and covered only by the skin, through which it may be recognized by a modified scale without pigment, easily distinguished from the rest of the dermal covering. In other genera of lizards the eyes become more and more rudimentary until in *seps*, *anguis*, etc., the nerve does not connect with the eye. This eye should be present in forms lower than the reptilia, the amphibia and fishes. While it is present in the extinct amphibia its existence in fishes is yet uncertain. Dean[1] thought that in *dinichthys*, a fossil fish from the Devonian, a median opening in the head enclosed a pineal eye, but in a more recent work[2] he abandons this view. In bird and mammals the epiphysis is completely degenerated and inside the skull. Its function in ancestral vertebrates is supposed to have been to allow the possessor to look up while lying partly buried in mud or sand, and as the paired eyes developed, this degenerated. In man the epithelial vesicle ramifies into tubes, the connective tissue capsule surrounding these strangles them so to speak, and closes them off into independent cavities. The degeneration of the organ is manifested not only by the cystic formation and by the pigmentary infiltration, but also by the almost constant presence of calcareous concretions in the gland itself, its peduncles or in the neighboring choroid plexus (Charpu). There is no essential difference between the pineal gland of man and that of the anthropoid apes. So then, we have a structure whose functioning in extinct saurians and some of their descendants of the present day, has degenerated and retreated within the skull, and its origin or purpose would be a mystery were it not for the light afforded by comparative anatomy and embryology. If the pineal

[1] N. Y. Repts. on Fisheries, 1891, p. 310.
[2] Fishes, Living and Extinct, 1895, p. 55.

gland and eye arises singly from the train it will modify some of our ideas concerning the origin of the paired eyes. The latter are by most modern biologists believed to be derived through evolution from the segmental sense organs of invertebrates. Organs for the perception of the senses are divided into lower and higher. In the former are the tactile sense organs and in the higher those for vision, olfaction, audition, and gustation. It will be noticed that these higher organs are all situated in depressions specially provided for them in the head. It has been found that though the gulf between tactile and visual impressions is great, it has been bridged by some of the annelids (leeches, etc.). In these organisms we find pure tactile cells at one end of the body, and pure visual cells at the other with a mixture of the two in the middle, or we may have all the tactile cells changed into visual. While search is being made for confirmation of this hypothesis in other classes of animals, the pineal eye presents a grave objection to this view, for the segmented sense organs are all double and if the pineal gland proves to be of single origin, two of these segmented organs must have coalesced to form it. At this juncture Locy comes to the rescue. This author[3] from a study of shark embryos believes that in addition to the two optic vesicles for the paired eyes, two pairs of accessory vesicles appear at an early stage of development. This requires further study and if confirmed would go to prove that the pineal eye was paired also. In this connection it may be noted that the chitons, or coat of mail shells, possess numerous ocelli on their shells, a fact discovered in 1884 by the lamented Mosely. One species *corephium aculeatum* has over 12,000. In some genera the eyes are scattered about irregularly over the shell, in others they are arranged symmetrically, the latter form is looked upon as being a later development from the earlier irregular distribution. At the present writing while waiting further investigations we have strong reasons for believing that our primitive hermaphrodite gill-bearing ancestors had eyes in the "back of their heads" as the proverb says.

Practical Notes.

Purgatives and Milk as Antiseptics.—Experiments recently made on the antiseptic action of purgatives show that it is temporary although thorough while it lasts. But a continuous diet of milk produces almost absolute asepsis of the alimentary canal slowly and progressively, which lasts as long as the lacteal régime is kept up.—From paper read before the Société de Biologie, and reviewed in the *Gazette Méd. de Paris*, January 4.

Ozone in Whooping Cough.—The *Bulletin Médical* of January 8, reports twenty-two cases of whooping cough treated with inhalations of ozone. It acted immediately in diminishing the frequency, the length and severity of paroxysms; it shortened the course of the disease remarkably and the general health improved at once, although the cases treated were all severely attacked.

Instantaneous Process for Sterilizing Cotton.—An absolutely aseptic tampon can be made of any piece of cotton by twisting it on a stick or toothpick and dipping it into an alcoholic saturated solution of boracic acid for a moment. Applying a light to it the alcohol burns out, while the boracic acid prevents the cotton from burning. Five seconds are enough; as soon as the flame turns green it is extingushed. The cotton is still white, dry, scarcely warm, but absolutely sterilized.—*Gazette Méd. de Liége*, January 2.

Method of Inserting Artificial Ureter.—Boari, of Ferrara, writes to the *Policlinico*, No. 19, 1895, reviewing all the cases recorded of artificial ureters, and describing his experiments with dogs, and successful operations in two clinical cases. He uses a button similar to the Murphy button, to which is fastened a tube that is introduced and fastened in the ureter. The intestine is opened with a lengthwise slit, through which the button is inserted. The membrane of the intestine and the ureter can be sewed together for security. In one case the operation was performed for tuberculosis of the bladder, and in the other, on account of a large vesico-vaginal fistula, with destruction of the ureter. The button was evacuated in eight to twelve days.—*Centralbl. für Chir.*, January 4.

Thioform in Surgery and Dermatology.—The tendency in modern surgery is to keep the diseased parts as dry as possible, and for this purpose thioform is highly recommended by Dr. Buck, of Ghent, to use in connection with iodoform, which it does not supplant but supplement. He uses it as a powder, either pure or combined with an equal part of boracic acid. He has also administered it internally in cases of enteritis, in doses of .2 grams for an adult and ⅛ to 1 gram for a child. Its constipating and antiseptic effect was manifested in each case. The *Gazette Méd. de Liége* of January 23, devotes considerable space to his study of thioform, which he asserts is of great value in gastro-intestinal disturbances as well.

Primary Sarcoma of the Pleura.—A Russian surgeon writes to the *Deutsch. med. Wochen.*, of January 23, reviewing the only five cases of this kind on record known to him, and describing in detail another that occurred in his own practice. A young man of 23 came to him suffering from pain and oppression in the pleural region, and other symptoms plainly indicating pleurisy with effusion, but still differing from it by the enlargement of the thorax, persistence of dullness on percussion with every change of position, and especially by the cachexia and radiating pains. Death ensued from sudden asphyxia and the autopsy confirmed the diagnosis of primary sarcoma of the pleura. It weighed about seven pounds, had grown to the spine and posterior thoracic wall, and was round-celled. A noticeable fact in these cases is the youth of patients.

A New Intestinal Button.—A new anastomotic button for intestinal operations was recently exhibited at the Soc. de Chirurgie de Paris, by Dr. Chaput, which he asserts is an improvement on the Murphy button. It is made of pure tin, in the shape of an elliptical ring, the hole in the center being 5 mm. wide and 30 long. The side view shows a circular groove, 1 c. wide and 8 mm. deep. The rims of the groove are cut in three places, and are thin enough so they can be pressed together with the fingers. There are four different kinds made, for the four principal kinds of operations where it is needed. It has given excellent results in several cases where it has been used, notably in cancer of the stomach and transverse colon and also in stenosis of the pylorus, although in one case the two buttons used have not been evacuated.—*Gazette Médic. de Liége.* January 9.

Erysipelas Serum as Treatment for Cancer.—Prof. Kopfstein treated fifteen cases of malignant cancer with serum of his own make and found that unpleasant symptoms were produced in every case with no alleviation of the disease. (*Wien. klin. Rundschau*, Nos. 33 and 34.) The *Centralb. f. Chir.*, Jan. 11, 1896, commenting on Kopfstein's article remarks that his experiences prove nothing for or against the Emmerich serum, as Kopfstein took his from an animal after one injection, while Emmerich and Scholl produced a chronic state of infection by repeated injections, before they took the serum. In the same magazine a case of cancer of the breast five years in developing, is described by Dr. Schüler, who treated it with the Emmerich-Scholl serum, after lancing. The patient improved from the first and the abnormal growth nearly entirely disappeared, while patient, a woman of 47, gained fourteen pounds. This may possibly have been some cancerous tumor and not a true carcinoma, judging from author's description.

Cutting and Tying the Vas Deferens for Hypertrophy of the Prostate.—Chalot, of Toulouse, and Isnardi, of Turin, have each performed successful operations for senile dysuria this last year by tying the vas deferens and cutting it instead of castrating.

[3] Anat. Anzeiger, Ix, p. 169.

Isnardi writes to the *Therapeutische Wochenschrift* of January 12, describing his operations in detail. He claims that this is enough in most cases, but if castration is found necessary, it is a preliminary that much facilitates the latter. His method is to cut the vas deferens, tie the stump ends and insert them in the incision so that as it heals they will grow into it. The atrophy produced will be much speedier and more radical if the plexus spermaticus is cut, and a slight inflammation of the spermatic cord produced. He believes that neurotomy will in time be found such an important factor in producing atrophy that it will be proved sufficient alone. Chalot exposes 2 cm. of the vas deferens and applies two ligatures of fine silk, $1\frac{1}{2}$ cm. apart and then cuts it between them. His operations are described in the *Revue Internationale* of January 10. One performed in February 1895 reduced the prostate gland to half its size, while the genital functions were not disturbed.

Abdominal Massage to Relieve Habitual Constipation.—Dr. Kümmerling uses the following process of massage for this purpose which is far more efficient than the usual process. Massage lasting fifteen minutes, well done, is sure to produce an easy and abundant evacuation. The patient is placed on his right side and the operator picks up with his thumb and index of each hand the skin and the subcutaneous tissue at the level of the iliac spine. This makes the intestine directly accessible to the other fingers, and he manipulates it with them, always pressing from above downward, and with the ends of his fingers, for five minutes. Then the patient is turned on his left side and the process is repeated on the cecum and the ascending colon, only in the opposite direction, from below upward. This leaves only the small intestine and the transverse colon to be massaged, for which the patient is placed in the decubitus genupectoral position, as this relaxes the abdominal walls and brings the intestines closer into the hand of the operator.—*Sem. Méd.*, Dec. 5, 1895.

Method of Preparing Bone Marrow for the Treatment of Pernicious Anemia.—Dr. Alfred Barre, of Leeds, England, offers in the *British Medical Journal*, the following suggestions as to the preparation of bone-marrow: "Three ounces of fresh bone-marrow (as much red as possible) are made into a paste with port wine, one ounce; gelatin, five drachms. A little care is required in making the paste, to keep the gelatin and the marrow sufficiently fluid for them to be thoroughly mixed. The gelatin should be soaked in sufficient water to soften it, and then should be melted with the glycerin, the mixture being kept in a mortar previously made hot with boiling water, while in another mortar, made hot in a similar manner, the marrow and wine are mixed. Then the contents of the two mortars should be thoroughly incorporated and allowed to set." The hospital meat-purveyor seems to have no difficulty in supplying the marrow free from spicules of bone. To some patients the mixture of glycerin, or the mixture of glycerin and marrow fat, is distasteful. For some of these, the objectionable taste is to be overcome by the addition of a small quantity of water at the time of the exhibition of the remedy.

Eruptions Following the Use of Quinin. (Idiosyncrasies.)—The extensive experience of Dr. Dubergé, former physician in chief to the French navy, gives importance to his article on quinin, reviewed in the *Gazette Méd. de Liége*, of January 2. He considers its action on the heart pernicious and its use contra-indicated in affections where the heart needs all its energy and activity. Amblyopia is also produced very rarely by quinin, it develops rapidly and may result in complete blindness. Deafness follows its use in very rare cases, but the transient effect soon passes off. It may also affect the brain, but this is never an important trouble. It may produce gastro-intestinal disturbances, vomiting and diarrhea that are sometimes fatal. It has also affected the genito-urinary organs, producing pain, oliguria, retention of urine, albuminuria, hematuria, menstrual troubles and abortion. He concludes his list of possible evils due to use of quinin with eruptions, which he says are either simple erythema or eczema. It is a coincidence that the *Annales de Derm. et de Syph.*, December, 1895, contains a detailed description of a case of extensive bullous erythematous eruption that appeared every time patient took quinin and vanished as soon as it was discontinued, as was demonstrated by repeated experiments. Patient had been syphilitic in years past and the eruption was treated for syphilis a long while. When it was traced to use of quinin, cure resulted immediately.

Subcutaneous Injections of Sublimate as Cure for Cerebro-Spinal Meningitis.—An Italian, Dr. Dazio, suggested this treatment, and with it Dr. Consalvi, of Casoli, has recently treated successfully nine cases occurring in an epidemic of influenza. (*Sem. Méd.*, Jan. 15, 1896.) The quantity of sublimate injected varied from .005 millig. to .01 centig., according to age of patients, which were from 14 months to 19 years. He made at first one injection in twenty-four hours, and later one in forty-eight. One case alone proved fatal, a girl of 7 died after first showing temporary improvement after injection. In other cases vomiting ceased after second injection, followed by disappearance of other symptoms, except the muscular rigidity. This persisted until after the sixth to eighth injection in some cases. The injections restricted the disease to a moderate intermittent fever with slight headache. The sublimate produced no disturbance except in two cases, one a girl of 14 had a slight attack of mercurial stomatitis after tenth injection, and another girl of 7 a bloody diarrhea after the fifth, but both soon passed away. Besides the sublimate, Dr. Consalvi used leeches, ice, frequent purgations with calomel, and bromid or morphin to quiet the patient. As recovery progressed he gave them iodid of potassium to expel the mercury from the system and favor the absorption of the meningitic exudations.

Thyroid Extract Successfully Used in Stupor, and in Ichthyosis.—The *Montreal Medical Journal* contains references to two new uses for thyroid extract, or thyroid feeding. One of these uses was the subject of a paper before the Canadian Medical Association by Dr. Charles Kirk Clarke, medical superintendent of the Rockwood Asylum for the Insane at Kingston. "He stated that he had observed, as others had done before, the effects of acute disease on these cases of stupor, how that it benefited many, in some cases effecting a complete cure. In the first case reported in his paper the patient was almost a hopeless dement. Upon the administration of the thyroid extract improvement began and gradually progressed until the cure seemed to be almost complete, when suddenly the patient, without apparent cause, relapsed back into his former condition. In other cases, however, the writer reported the effects to be well marked, a permanent cure resulting. The doses given went as high as 20 grains." Dr. W. E. Deeks has reported to the Montreal Medico-Chirurgical Society a case of ichthyosis for the relief of which thyroid extract was employed. The remarks of Dr. F. J. Shepherd, made in the discussion of the paper, indicated the propriety of having the case continuously under observation. He said: "Ichthyosis is of course a congenital affection, or at any rate comes on soon after birth. If this case was cured by thyroid extract it is certainly remarkable, and another triumph is added to the many now claimed for this wonderful remedy. Cure of ichthyosis is almost unknown, though temporary amelioration may always be obtained by the daily use of soap tinctures followed by the rubbing in of any fatty matter. The case is well worth reporting and following up, and Dr. Deeks should, if possible, bring her before the society, or report the progress of the case after several months have elapsed."

Behring on Serotherapy.—For the first time Professor Behring has replied to the critics of antitoxin and supports the efficacy of this discovery by innumerable statistics. (*Deutsch. Med.*

Woch., 1895, No. 38). He claims that even statistics do not do it justice, as it is used in perhaps the more desperate cases, and the mortality percentage is therefore higher than it should be in proportion. But even allowing for countless errors the percentage is a great gain over the past. The mortality in Berlin in 1895, sank to 15 per cent., two-thirds less than it had averaged during the seventeen years preceding, while the character of the diphtheria was more serious than at any time since 1886. Of 10,312 cases, 5,833 were treated with serum, with a loss of 9.6 per cent. while 4,479 cases treated without it, showed a mortality of 14.7 per cent. The percentage fell to 10.3 per cent. in the Contagious Disease Institute, where the serum was exclusively used.

He asserts that the question now is: Shall it be used to secure immunity? For this purpose he recommends one-half of a regular dose. He says the works can now supply 100,000 doses a month, which barely keeps pace with the demand from Europe and America. Improved methods have enabled the dose to be concentrated from 5 c.c into 1 c.c. He regrets that the specific for tuberculosis is not yet all that was hoped for it, but congratulates Ransom on his cholera serum and Knorr on his for tetanus.—*Centralbl. für Chir.*, January 11.

Low Death Rate in Typhoid Fever Treated by the Cold Bath.—Dr. William Osler has recently given before the Canadian Medical Association the result of five years experience with this form of treatment. He stated that when the patient's temperature rose above 102.5 F. he was placed in a bath of 70 F. every third hour. To patients with heart weakness strychnin and alcohol in small doses were given, particularly after the bath. Milk, broths and egg albumin constituted the diet. Three hundred and fifty-six cases had come under treatment in the hospital, with twenty-five deaths. The mortality was 7.02 per cent. of all cases, and 6.3 per cent. of bath cases. It was to be remembered that hospitals were usually given the worst cases. In certain cases the baths were contra-indicated—as where the temperature did not rise to 102.5 in very mild cases, in cases markedly asthenic; and where serious complications were present, as hemorrhage, perforation, etc. So that the Brandt method had not been strictly followed. The beneficial effect was not wholly due to the antipyretic action, but to the general tonic effect. Although not in favor of the treatment at one time, he had become an advocate of it, having seen its good effects in his own cases, as well as in those of the large hospitals in other portions of the globe. From statistics gathered it gave better results than any other form of treatment.

Dr. Muir, of Truro, N. S., referred to annual epidemics of typhoid he had experienced following river freshets. He pointed out the difficulties of carrying out the cold bath treatment in private practice, of the opposition of the patient's friends, and of the danger to the medical man's reputation if serious results followed the cold baths. He condemned the use of the ordinary antipyretics. His watchward was, watch the pulse, not the temperature. The speaker said that most of his patients died from bowel complications. To avoid constipation he used small doses of Rochelle salts, and for an antipyretic, alcohol. His death rate was 8.1 in 159 cases.

Urticaria and Jaundice Associated with Ptomaine Poisoning.—In the London Post-Graduate course, conducted by Mr. Jonathan Hutchinson, as reported for the *Medical Press*, that teacher brought before the class the following case of partridge poisoning, or poisoning after partridge. Partridge poisoning, as observed in this country and in Canada, is seldom referred to by English writers: "The patient was a man, aged about 35, who came with the following history: About fourteen days ago he ate some cold, over-kept partridge. In the course of a few hours afterward, he felt sick and unwell. For three days the sickness continued, and then the attack of urticaria supervened. The attack was an unusually severe one, all the patches were salmon-tinted, and for a week no improvement could be noted. At the end of that time, however, the patches began to disappear, and when this occurred, the patient quickly became deeply jaundiced. The skin was now stained a deep yellow, and the urine was discolored from the presence of bile. A point of much interest in this case was the association of urticaria with the jaundice. It was worthy of note that inflammation of joints sometimes occurred in connection with urticaria. The probability was that when this was the case the patients were the subjects of inherited gout. An instance of this kind had recently come under Mr. Hutchinson's notice. The patient, who was suffering from urticaria, complained of some inflammation of his knee-joint. He was aged 35, and Mr. Hutchinson found tophi on his ears—not ordinary tophi, calcareous, containing some deposit of urate of soda, but more of a fleshy character. The patient's brother had been shown, at a former demonstration, suffering from Dupuytren's contraction of the ring and little finger of the left hand. Although the contraction was attributed by this patient to a severe dog-bite of the hand, there was, on the other hand, very little doubt that the deformity was more largely due to inherited gout."

Neuritis During and After Typhoid Fever.—In the Johns Hopkins Hospital Reports, Vol. v, No. 6-9, 1895, Professor Osler gives an account of the cases of neuritis during and after typhoid fever that have come under observation during the six years ending May 15, 1895. The cases may be grouped into instances of local neuritis and of wide-spread, diffuse, multiple neuritis. Among 389 cases of typhoid fever under treatment there were four with well-defined symptoms of a local neuritis. In two the neuritis developed during the height of the fever. In Case 1, severe neuralgic pains in the arms with great tenderness of the muscles developed in the second week; there was numbness of the hands, no arthritis and no sensitiveness of the nerve trunks; the patient recovered without washing. In the second case there developed severe pains in the right arms and legs in the third week; the arm improved rapidly, but the pain in the leg became agonizing; there was great sensitiveness in the muscles with erythema nodosum; recovery took place after ten days. In two cases the neuritis developed after the subsidence of the fever. In the first case there was pain in the left leg, sensitiveness in the nerve trunks and soreness in the tibialis anticus; the recovery was quite rapid. In the second case the onset of convalescence was marked by the development of soreness and pains in the limbs, especially the arms; "pins and needles" in the left foot and swelling with tenderness in the left arm; the improvement was gradual and recovery took place without atrophy. Osler then describes the clinical features of four cases of multiple neuritis following typhoid fever in which there was a rapid or gradual development of paralysis of the legs or of both arms and legs. In such cases the differential diagnosis lies between peripheral neuritis and anterior poliomyelitis and this is often difficult. The following are some of the more important points: The mode of onset is very much more rapid, as a rule, in myelitis. In poliomyelitis the sensory symptoms are subsidiary, whereas in polyneuritis there is more or less pain, or sensations of numbness and tingling. The atrophy is more rapid in the central lesion. The gradual recovery of the faradic irritability of the muscles is a point which favors the diagnosis of neuritis. The most important of all points is the subsequent history, because complete recovery is almost the rule in multiple neuritis. The prognosis is consequently in the main good. In treatment persistent massage is very important; medicines are of doubtful utility; from twelve to eighteen months time is the essential factor.

Osler also calls attention to a very interesting and distressing affection which he thinks should be classed as a neuritis, namely the tender toes of typhoid fever. Handford, quoted in Rose and Bury on "Peripheral Neuritis" (London, 1893), says in describing this feature: "For some weeks past there has been tenderness of the toes of both feet, so that the toe nails could not be cut on account of the pain it caused in the nail bed and in the pulp at the end of the toes. In three other

cases recently I have met with this condition of pain in the toes and in one of them in the arms also. In one instance the tenderness of the feet was so great that they had to be protected from the pressure of the bed clothes by a cradle. But in none of them was it followed by muscular wasting or definite loss of sensation so far as I could detect." Osler does not think that this condition is an effect of the cold water treatment. The treatment of such tender toes is not very satisfactory. Hot cocain solution or cotton wool seems to give most relief.

Hospital Notes.

THE TWENTY-SEVENTH ANNUAL REPORT of the Children's Hospital of Boston, has just been issued. The Board of Managers justly claim great success for the institution and in its relation to the city of Boston they assert that "Our own hospital offers the example of hundreds of children and young persons, moving about among us, with the hope and the certainty of continued life and the power adequately to meet the world, in place of that invalidism which seems to be the heritage of so many of the human race. It is thought best to make this statement at this time in order that the patrons of the hospital may recognize the importance of, and may be tolerant of, the demands made on them to carry out the good work.

"We can point to the fact that the presence of cases of club-foot and crooked backs and lame legs is noticeably less on our streets than it was twenty years ago; we can show that the children of to-day in our midst are stronger and better able to cope with the roughness of life; we can make evident that this improvement is due, partly to our own hospital, partly to the advanced intelligence of physicians who have studied in our own and similar institutions and are spreading over the land the newer lights of medical knowledge."

In regard to antitoxin in diphtheria, the report, while stating that as a rule contagious cases are not admitted to the hospital yet epidemics in the institution have apparently been stopped by its use, and they invite attention to Dr. Morrill's report of that subject, in the *Boston Med. and Surg. Journal.*

Detroit Notes.

THE WAYNE COUNTY Medical Society at its regular meeting Thursday, February 6, listened to a very interesting paper by Dr. W. R. Henderson entitled, "Rupture of the Uterus."

AT THE REGULAR MEETING of the Detroit Medical and Library Association Monday, February 3, Dr. T. A. McGraw read a paper entitled, "Fistula of the Large Intestines."

HEALTH OFFICE REPORT for week ending Feb. 8, 1896: Deaths under 5 years 32, total 79. Births, male 56; female 54, total 110. Contagious diseases: Diphtheria, last report 21, new cases 6, recovered 19, died 1, now sick 7; scarlet fever, last report 22, new cases 5, recovered 7, died none, now sick 20; smallpox, last report none, new cases 2, recovered none, died none, now sick 2.

Atlanta Notes.

THE RESIDENT MEMBERSHIP OF THE AMERICAN MEDICAL ASSOCIATION here in our city is not near as large as it should be, so that we trust the meeting next May will be able to awaken more interest among the southern physicians and thus add an increased membership from this section of our States. However, Atlanta has always been equal to every emergency, and the medical fraternity of our city will see that the visitors here next May shall be well cared for. The Local Committee of Arrangements have already been selected and are now actively engaged in perfecting all the details relative to the next annual meeting.

THE ATLANTA SOCIETY OF MEDICINE held its annual meeting for the election of officers on the second Tuesday evening in January. The following officers were elected for the ensuing year: President, Dr. R. R. Kime; Vice-President, Dr. W. A. Crowe; Secretary, Dr. W. L. Champion; Corresponding Secretary, Dr. Dunbar Roy.

AT A RECENT MEETING of the Faculty of the Southern Medical College some changes were made in that body on account of the recent death of the President, Dr. Thomas S. Powell. Dr. Wm. Perrin Nicolson, who was formerly Dean, was elected President, and Dr. Jas. B. Baird, recently elected to the chair of Practice of Medicine, was made Dean. Dr. Dunbar Roy was made Secretary of the Faculty. Dr. W. A. Crowe was elected to fill the chair of Obstetrics for the unexpired term of this session.

DR. C. D. HURT has been elected Visiting Physician to the Grady Hospital in place of Dr. J. S. Todd, resigned.

DR. J. C. OLMSTED has been appointed by the Governor as a member of the "Allopathic" Board of State Medical Examiners, *vice* Dr. Jas. B. Baird, who was made ineligible to that position by accepting a professorship in one of the State medical colleges.

DR. C. M. DRAKE, late of Knoxville, has been appointed Chief Surgeon to the Southern Railway System. Dr. Drake will remove to Atlanta and make this his headquarters since it is the central point of this railway system.

DR. DUNBAR ROY has been appointed Oculist and Aurist, and Dr. W. Jarnagin Local Surgeon to the Southern Road.

Washington Notes.

WEEKLY REPORT OF THE HEALTH DEPARTMENT.—The report of the Health Officer for the week ended February 1 is as follows: Number of deaths (stillbirths not included), white 52, colored 49, total 101; death rate per 1,000 per annum, white 14.4, colored 28.3, total 19.0; death rate per 1,000 per annum for the corresponding week last year, 17.3. A decline of over 9 per cent. took place in the total mortality of the District during the past week. The number of deaths reported at the Health Department was 101 as compared with 112 in the previous week. There were 39 deaths from lung maladies, of which 12 were from consumption and 16 from pneumonia. But one death from typhoid fever was reported and one from scarlet fever. A fall of seven occurred in the mortality among children under 5 years of age. The annual death rate was 19.0 as against 21.1 by the last report and 17.3 for the corresponding week of last year.

RECRUITS TO THE AMBULANCE CORPS.—The Ambulance Corps of the District Guard, at its meeting last week, elected to membership William M. Johnson, Jr., G. V. Stockslayer, W. T. Rawlings, H. D. Miller and W. E. Cook. Since the corps has been under its present command it has taken a new life, and many applications are presented at every meeting.

SIDE ARMS FOR THE HOSPITAL CORPS.—The Secretary of War has ordered that side arms shall not be issued to members of the U. S. Army Hospital Corps, except when they are serving in Indian wars or are left with wounded under circumstances which justify the expectation that their rights as non-combatants will not be recognized.

POLICE AND CONTAGIOUS DISEASES.—The Commissioners have amended the manual of the police department by adding to paragraph 162 of the same the following:

"No member of the police department in whose family there exists a case of diphtheria, scarlet fever or smallpox will be permitted in any way to come in contact with the patient suffering with the disease, or those in attendance upon such patient, except that it shall be shown, upon a certificate of the attending physician, to the satisfaction of the surgeon of the police department in that district, that the presence of such member is imperatively demanded at home, in which event leave of absence shall be issued to him by the surgeon of his district, in accordance with the law governing sickness in the police department. This rule permits members to visit their homes for meals, but for no other purpose. Clothing and other personal effects of a member which have been subjected to infection by the proximity of the patient must undergo thorough disinfection before being again used. When a policeman has been in direct contact with the patient, or in the patient's room, such policeman must be thoroughly cleansed by bath and sponging with some disinfecting solution, to be prescribed by the surgeon of his district, and must robe himself thoroughly throughout in clothing that has not been subjected to infection, or that has been thoroughly disinfected, before he may return to the station house."

MEDICAL PRACTICE BILL REPORTED TO THE HOUSE.—Mr. Babcock has submitted to the House a report on the bill to regulate the practice of medicine and surgery in the District, which was ordered reported by the committee last Wednesday. The report says that the committee finds that in consequence of the enactment of medical practice laws in forty-three States and Territories the District has become a rendezvous for those who, from lack of proper qualifications, are forbidden in nearly all States and Territories, and that a uniform grade of qualification for medical practice will elevate the standard of medical education. The report says there are five medical schools without uniform standard of curriculum or qualification for the degree of doctor of medicine. There are also three medical societies, each authorized to license men to practice medicine in the District, upon the presentation of such diploma as the applicant may offer. Under the existing law five men can obtain a charter authorizing them to confer the degree of doctor of medicine to any person, and a representative of one such institution admitted to the committee that it had no building or provisions of any kind to teach medicine in any of its branches. The report strongly urges the passage of the bill.

THE FORTIETH ANNUAL REPORT OF ST. ELIZABETH'S ASYLUM.—Dr. W. W. Godding has transmitted his annual report of the Government Hospital for the Insane, to the Secretary of the Interior, for the year ending June 30, 1895. It shows that 2,052 patients were under treatment during the hospital year. There remained June 30, 1894, 1,681 patients, and there were admitted during the year 371 patients. Of the whole number under treatment, 1,570 were males, and 482 were females. There were discharged as recovered, 98; as improved, 72; as unimproved, 1, and 179 died, leaving under treatment June 30, 1895, 1,702 patients, 1,318 males and 384 females. Of the 179 deaths at the institution during the year, the principal causes were cardiac valvular disease, of which 18 died; general paralysis, 14; organic disease of the brain, 27; phthisis, 18. The duration of mental disease of those who died ranged from two weeks to forty-four years.

The report shows that 9,586 cases have been treated since the opening of St. Elizabeth Hospital, in 1855. The nativity of these cases treated shows that the District of Columbia leads in the native born with 1,158 cases, and Ireland in the foreign born, with 1,681 cases, followed by 1,155 cases of German birth. The report says: "The number of admissions, 371, an average of more than one a day, has never been exceeded within the hospital history, except during the last two years of the war, while the whole number under treatment, 2,052, is in excess of that of any previous year, and that the daily average number is nearly 50 more than ever before. The recoveries 98, just 28 per cent. of the discharges, makes a favorable showing which the chronic character of the great proportion of cases is taken into account. The deaths were 179, showing a mortality of 10.73 per cent. on the average number, and 8.72 per cent. of the whole number under treatment. Ninety-three of the deaths were of soldiers and sailors."

The report then comments on "the abortive attempts of the United States government to fill the Eastern Branch flats," and says this is the probable cause of more than one-half the sickness occurring at St. Elizabeth.

Of the latest addition to St. Elizabeth's, the large domain below Oxen Hill, and known as Godding Croft, the report says: "The sixth group, the agricultural one, is a colony at Godding Croft for chronic cases; harmless workingmen, who, having a home with home comforts, are content. The nucleus of such a colony is already established. At Godding Croft there are sixty acres of the finest garden soil that exists anywhere within the nearly 800 acres of this government ground. Here are 25 acres of hillside, well adapted to vineyards and orchards; 60 acres of corn and grass land, with more than 100 acres of woodland and pasturage. The estimates for the fiscal year ending June 30, 1895, amount in all to $412,400."

MEDICAL SOCIETY.—At the meeting of the Society held on the 5th inst., Dr. Wellington read the essay of the evening, entitled "Castration for Hypertrophy of the Prostate Gland." Dr. Acker reported a case of typhoid fever and presented the specimen. Dr. H. L. E. Johnson reported three successful cases of abdominal section, two for ovarian tumor and one myomectomy. The specimens were presented. The report of the committee on "transactions publication" was read but its consideration was postponed for one week. The Society unanimously endorsed the House bill to regulate the practice of medicine in the District.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The 240th meeting of the Society was held on the 7th inst. Dr. Bovee read a paper on "Anterior Colpotomy and reported seven cases. Dr. H. L. E. Johnson reported a successful case of myomectomy. Dr. Stone presented three specimens from operation for pus tubes. The paper and cases brought a lengthy and interesting discussion.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from February 1, 1896, to January 7, 1896.

Capt. William O. Owen, Jr., Asst. Surgeon U. S. A., leave of absence granted on surgeon's certificate of disability is extended one month on account of sickness.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending February 8, 1896.

P. A. Surgeon C. H. T. Lowndes, detached from marine rendezvous, San Francisco, and granted one month's leave.

Asst. Surgeon C. P. Bagg, detached from the "Vermont" and ordered to the marine rendezvous, San Francisco, Cal.

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the sixteen days ended January 31, 1896.

P. A. Surgeon C. E. Banks, to proceed from Washington, D. C., to Boston, Mass., for temporary duty, Jan. 31, 1896.

P. A. Surgeon W. J. Pettus, to assume temporary command of Service at Norfolk, Va., Jan. 31, 1896.

P. A. Surgeon G. M. Guiteras, to proceed from Gulf Quarantine to Mobile, Ala., for temporary duty, Jan. 18, 1896. To rejoin station at Gulf Quarantine, Jan. 31, 1896.

Asst. Surgeon W. J. Stewart, granted leave of absence for ten days, Jan 27, 1896, ordered to examination for promotion, Jan. 31, 1896.

Asst. Surgeon E. K. Sprague, granted leave of absence for twenty days, Jan. 23, 1896.

Asst. Surgeon Emil Prochazka, to proceed from Detroit, Mich., to Chicago, Ill., for temporary duty, Jan. 31, 1896.

Asst. Surgeon H. W. Wickes, upon completion of temporary duty at Memphis, Tenn., to return to his station at New Orleans, La., Jan. 17, 1896.

BOARD CONVENED.

Board convened to meet in New York City for the physical examination of a candidate for appointment in revenue cutter service, Surgeon W. A. Wheeler, chairman, and Asst. Surgeon H. S. Cumming, recorder, Jan 29, 1896.

Change of Address.

Coolidge, F. S., from 2207 Prairie Ave., to 2632 Prairie Ave., Chicago, Ill.

Gihon, A. L., from 16 W. 31st St. to 8 W. 127th St., New York, N. Y.

Minar, E. G., from Bay City, Mich., to Mannsville, Jefferson Co., N. Y.

Price, M. F., from Los Angeles to Indio, Riverside Co., Cal.

Tiller, F., from St. Paul to Blue Earth City, Minn.

LETTERS RECEIVED.

Alma Sanitarium Co., Alma, Mich.; Ayer, N. W., & Son, Philadelphia, Pa.

Bischoff, L. F., New York, N. Y.; Beck, H., New York, N. Y.; Brown, F. F., Advertising Agency, New York, N. Y.; Blake, C. E., & Co., Chicago, Ill.; Bellevue Place Co., Batavia, Ill.; Beil, H. S., Kearney, Neb.

Chloride of Silver Dry Cell Battery Co., Baltimore, Md.; Culien, G. I., Cincinnati, Ohio; Connor, H. J., West Superior, Wis.; Cutter, John A., New York, N. Y.; Cone, A., New York, N. Y.; Chamberlin, W. A., St. Charles, Minn.

Demarest, O. B., Benson, Ky.; Dodge, W. T., Big Rapids, Mich.; Dodds, Robt., Chicago, Ill.; Drake, F. A., St. Paul, Minn.; Drew, C., Jacksonville, Fla.; Doliber-Goodale Co., Boston, Mass.; Deming, H. H., Chicago, Ill.; Davenport, Nora Soulé, Chicago, Ill.; De Lee, J. B., Chicago, Ill.; Duncan, A. M., Bucyrus, Ohio.

Eastman, Thos. B., (2) Indianapolis, Ind.; Edsall, D. L., Philadelphia, Pa.; Engelmann, Rosa, Chicago, Ill.; Fitzgerald, G. A., Evergreen, W. Va.

Fisher, G. A., Chicago, Ill.; Ford, Chas., New York, N. Y.; Foster, C. W., Woodford, Me.

Hanson, Z. P., Chicago, Ill.; Hummel, A. L., Advertising Agency, New York, N. Y.; Hollingsworth, H. W., St. Louis, Mo.; Hektoen, Ludwig, Chicago, Ill.; Howle, W. F., Oran, Mo.; Hammon, G. M., Chicago, Ill.; Henderson, Geo. S., Holcomb, Ill.

Johnson, O. M., Water Valley, Ky.; Johnson, H. L. E., Washington, D. C.

Laplace, Ernest, Philadelphia, Pa.; Lewis, Geo. W., Fremont, N. C.; Larkin, O. E., Chicago, Ill.; Lamb, D. R., Owosso, Mich.

Minar, E. G., Mannsville, N. Y.; Mitchell, A. B., Washington, D. C.; Martin, W. D., Sparta, Pa.; Mundell, J. H., Washington, D. C.; Magee, W. H., Duluth, Minn.; Montgomery, E. E., (2) Philadelphia, Pa.; McCambridge, T. H., (2) Germantown, Ill.; McGarvey, J. F., Lorain, Ohio.

North, Lucian G., Tecumseh, Mich.; Neer, H. C., Park Ridge, N. J.; Newton, Geo. W., Chicago, Ill.

O'Connor, F. R., Brooklyn, N. Y.

Paine, Enoch, Springfield, Ill.; Payne, Geo. F., Atlanta, Ga.; Price, M. F., Indio, Cal.; Piroth, B., Chicago, Ill.; Pendleton, G. W., Idaho Falls, Idaho; Porter, E. E., Westboro, Mass.; Parke, Davis & Co., Detroit, Mich.; Pusey, Chas. M., (2) Chicago, Ill.

Rowley Frances, Dallas, Tex.; Robert, Hubert L., Toronto, Can.; Rymer, W. A., Pennsboro, W. Va.; Rick, L., Westphalia, Kan.; Reed, A., Austin, Ill.

Smith, E. P., Boston, Mass.; Smith, E. B., Detroit, Mich.; Smith, C. J., Pendleton, Ore.; Shaw, J. B., Joliet, Ill.; Shumway, F. P., Boston, Mass.; Savage, G. C., Nashville, Tenn.; Stelger, E., & Co., New York, N. Y.; Siefert, C. F., New York, N. Y.

Thornton, J. H., Lansing, Iowa.